THE BUILDER

INCORPORATING

"ARCHITECTURE" and "THE BRITISH ARCHITECT"

VOL. CLXXV AUGUST 20, 1948 No. 5505

THIS WEEK'S NEWS

PAGE

THE cost of building Aycliffe, the new town near Darlington, County Durham, will probably be about £10m. 209

A DEMOLITION and reconstruction scheme carried out on the roof of New-street Station, Birmingham, was commenced in November, 1945, and completed in April of this year. Unusual problems were encountered, but the scheme was operated with little interference to rail traffic using the station. 210

MR. NEVILLE CONDER, A.R.I.B.A., A.A. Dip., has won the competition for designs for public telephone kiosks for the Department of Posts and Telegraphs, Eire. Mr. Norman D. Ayres, A.R.I.B.A., Dip. Arch. (Wales), and Mr. Merlyn C. Williams, A.R.I.B.A., Dip. Arch. (Wales), were awarded first prizes in the Architecture and Town and Country Planning competitions respectively of the Royal National Eisteddfod of Wales. 211

A FACTORY, built to house chemical manufacturing plant and designed by Mr. Edward D. Mills, F.R.I.B.A., so as not to interfere with the free arrangement of the plant, is described and illustrated. 212.

THE "Indicators" introduced by the Ministry of Town and Country Planning as a means of clarifying the methods of measuring daylight now in general use throughout the country are commented upon by Mr. John Swarbrick, F.S.A., F.R.I.B.A., who considers that they can only be used as rough-and-ready tests, devoid of scientific accuracy. 218

STRUCTURAL requirements for houses, with special reference to standards for strength and stiffness, are set out in "National Building Studies. Special Report No. 1," recently published. The Report gives details of loading tests carried out by the Building Research Station on many of the new types of houses. 225

MR. BELCHER, Parliamentary Secretary to the Board of Trade, has informed a deputation from the London County Council that priority would be given by the Government to the building of factories in development areas rather than on local authority out-county housing estates. 226

CRITICISM of the Ministry of Labour and National Service for the inadequacy of steps taken to reduce to present needs the expenditure on training in Government centres, particularly those centres used for training for the building industry, is contained in the Second Report from the Committee of Public Accounts. The Report states the Committee feel doubtful whether adequate steps have yet been taken to reduce the expenditure. 227

SOME candid observations on building and general trade activity in Europe were made at a meeting of the Building Industries Luncheon Club by Mr. Herbert U. Nelson, vice-president of the National Association of Real Estate Boards of the United States, who has recently made an extensive tour of the Continent. He formed the impression that Belgium, which has fewer restrictions on building than any other European nation, was the most prosperous of the countries he visited. 228

THE FACTORY'S CONTRIBUTION TO HOUSING

AT a time when we are led to assume an extensive increase in the building programme of permanent houses, there is some danger that we may be inclined to suppose that the impact of the factory upon the output of houses has ceased to be a pressing problem. With many, the wish may be father to the thought that the prefabricated permanent house has come and gone for all time, and that we are therefore no longer concerned with the factory. The assumption is probably wrong, and the conclusion most certainly a fallacy.

The housing problem continues to be an urgent one, and in most areas the waiting list of would-be tenants is greater now than when the programme was commenced. Arrears are mounting up and operations are not keeping pace with demands. It is therefore necessary to adopt every possible sound means of increasing the tempo of building.

There has already been a fair proportion of permanent prefabricated houses in the building programme to date, and some useful experience has been gained which will assist the industry to appraise future prospects, and we may well consider now some of the factors involved. The prerequisites of a prefabricated house must continue to be that it should have an expectation of life comparable with the permanent traditional house, that it should be equally warm and comfortable and equally weather-tight. Another less considered factor is that its erection should involve as little as possible of the labour and materials needed in the building of traditional houses. It goes perhaps without saying that the prefabricated house should satisfy aesthetic demands, for there is no reason why this point should not be met, provided competent architects are used.

There is no doubt that few types of prefabricated construction have satisfied these prerequisites. We do not propose to refer to any actual types, but we would suggest that any system which involves the use of light, corrodible metal parts buried out of sight and inaccessible for periodical painting is one in peril of dilapidation within the lifetime of the younger people of today, and that houses which involve this certain risk are likely to create a major problem in the not distant future. However spectacular may be the speed with which shells are erected by any such system, we feel that the building conscience of the times should be sufficiently strong to resist the temptation to barter immediate relief for risks almost certain to mature.

So far as weather-proofing and insulation are concerned, most types have responded fairly well to the needs of the problem, and these problems should not be beyond the capacity of modern science to solve. The problems inherent in the use of concrete, however, remain serious, and in most cases the internal finishings of wall surfaces are in fibre-board, involving jointing difficulties which have not yet found an entirely satisfactory solution.

The main problem is that of labour. It is quite apparent that the great advantage of the prefabricated house in speed of erection is confined to the shell, and that the finishings of such structures are

generally at least as complicated, and of similar process, as in the case of permanent brick-built dwellings.

We have thus been relieved mainly of the bricklaying trade, in men and materials, although this is the trade, among the many trades involved in permanent traditional building, in which the problems of supply have been the least pressing. Apart from the early months after the cessation of hostilities, bricklayers have provided a sufficient force to keep the finishing trades fully occupied, and except for a short interval, the supply of bricks has been amply adequate and, at times, has assumed the proportions almost of a glut. The tempo of turning out completed buildings has been set almost entirely by the finishing trades, in men and materials, and it becomes a serious question whether the supply of permanent brick houses would not have been substantially greater if this part of the programme had been reinforced with the finishing labour absorbed by the prefabricated house programme. In other words, has our judgment been prejudiced by a bare comparison between the numbers of one and the other, instead of an overall appraisement of our resources in all directions?

What has been done cannot be undone, but it is surely time that we went into this important matter as thoroughly as possible to ensure that we do not repeat illusory actions which are almost certainly less effective than they appear to be, and may even be to the general disadvantage of our practical results. We do not suggest that the case against the prefabricated permanent house has been proved, but we do suggest that the types of construction we adopt as a reinforcement to the traditional building trade should be chosen to give the maximum relief to the trades most in demand, and must not unbalance the gangs which should be working at top speed along the traditional lines.

The aluminium house is a striking case in point where the factory takes over so completely that the dwelling is ready for occupation within a few hours of delivery to the site, so making a contribution to the programme with a minimum call upon the building trade. If it were possible to apply such methods to the permanent programme there would be good reason for departing to a wide extent from traditional methods as a way out of an emergency. As it is, we doubt very much whether the permanent prefabricated house has not caused more congestion at one end of the industry than relief at the other.

We feel also that the factory has not been called upon enough to reinforce the normal brick-built house with units of sufficiently elastic assembly to apply to the varied plan. In this, the architect would co-operate fully with skilful planning if there could be a general consensus of opinion. The use of standard spans for floor joists, standard trimmings for hearths, standard pitches and types of staircases would render possible a great deal of mass-production which is impossible when plans are entirely individual. The architect already has found the way to conform to standard room sizes, and heights of storeys, etc., and his skill is quite adequate to accept yet further restrictions upon his freedom, if the result is to be quicker and cheaper houses.

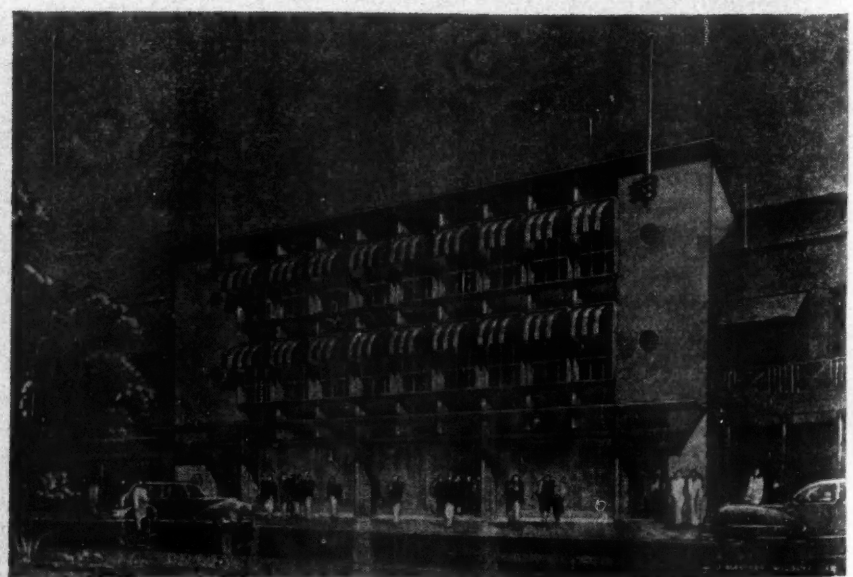
One of the factors, where mass-production has been applied to house-building, which has led to high costs is that there must be a big enough output to justify the expense of carefully conceived prototypes, and the manufacture of the necessary jigs. The result has been that the few houses of one type which have been made have been insufficient to reach the optimum of economic output. On the other hand, a greater number of similar house units would lead to more monotony than we are prepared to accept. We think the aim should be towards the production of mass-produced units capable of varied assembly, rather than mass-produced units each of which comprise an identical house.

It seems quite evident that we have much to learn yet about factory house-building, and that a conference of architects, builders and industrialists might be well worth organising with this end in view, so that we may begin to overtake the arrears which are still out of hand, in spite of much good work under great difficulties.

NOTES AND NEWS

Landscape Architecture Lectureships.

AN important step in town and country planning education was taken in 1945, when King's College, Newcastle, in the University of Durham, established the first degree course in town and country planning in the Commonwealth. The School of Town and Country Planning has developed rapidly during the last three years and will shortly take over accommodation more than three times as large as that allocated to it when the new course was established. An important aspect of the course has been the study of landscape. Not only has the historical development of landscape received attention but the rural planning and design problems of landscape have been included in practical work undertaken by students and in research by the staff. This work has been related to the subjects of agriculture, arboriculture, horticulture and geography and close contacts have been maintained with the departments of the College concerned with these subjects. A Research Fellowship in Landscape was established 18 months ago and work is in progress on problems of industrial landscape. A new full-time lectureship in landscape architecture has been made possible by funds placed at the disposal of the college by the Institute of Landscape Architects. Landscape, as a subject of study and research,



ARCADE AND OFFICE BLOCK, PORT OF SPAIN, TRINIDAD

This perspective shows the new Haynes Arcade and offices, between Vincent-street and Abercromby-square, on which work will shortly commence. The quantity surveyor is Mr. L. Voisey, F.I.A.S., of Birmingham, and the consulting engineer is Mr. G. A. Tarbun, A.M.I.Struct.E. The architects are Messrs. Mence and Moore, A. and L.R.I.B.A.

has been neglected in this country until recently and the need for research and for teaching has become apparent owing to the increasing industrial development of the countryside. The problems created by the new scale of industrial plant such as power stations, the intrusion of aerodromes and factories on country sites, together with the many problems of the disposal or treatment of industrial debris from various forms of mining and quarrying have enlarged the scope of the work of the landscape designer beyond the earlier problems of designing parks and gardens. Furthermore, the increased interest in the creation of urban environment calls for a new approach in the landscape treatment of towns. Some of the new town plans which have been prepared have already indicated this awakened interest. But there are few people in this country who have had experience in this field, and it is hoped that the new studies will prove of value.

Mr. Brian Hackett, A.R.I.B.A., A.M.T.P.I., who has been appointed to the new lectureship in landscape, is at present lecturer in Town and Country Planning in the University. He has paid special attention to landscape problems in relation to town and country planning, and last year undertook research into the methods adopted in Sweden.

We learn that a similar lectureship is being arranged at London University, but so far no appointment has been made.

Tradition and Modernism.

ALTHOUGH there have been frequent errors in taste in American domestic design, the standard has always been fairly high. The latest trends, which are probably well known to many architects in this country, include the open plan, an accent on spatial relationship of rooms and garden, and a liberal use of field stone and timber. In spite of recent developments in a very modernistic vein, such as the flat roof for helicopter landings, and the extensive range of labour-saving gadgets, we may discern a reactionary process at work. An enhanced respect for tradition has become apparent, and the wedding of a free plan to the conservative use of materials has resulted in some very effective domestic work.

A similar process of development has been taking place in our own country in the past few years. We can ignore one or two exaggerated fashions from the Continent, such as extremely high-pitched roofs and undersized windows, in view of the fact that domestic architecture has thrown off its pre-war cloak of modernism and, while retaining all the best features of modern research, has shown a marked sympathy towards tradition.

This serves as a reminder that domestic architecture is produced to be inhabited by human beings. Comfort, a sense of repose and good planning and proportion go to make up the best domestic architecture. These things have always been predominant in the finest periods of house building in the past; care should be taken that they take their place in all our domestic architecture to-day.

Proposed New Town at Bracknell.

THE Minister of Town and Country Planning, Mr. Lewis Silkin, M.P., recently met representatives of local authorities concerned to consult them formally under Section 1 of the New Towns Act, 1946, on the proposal to develop Bracknell, Berkshire, as a new town to house an ultimate population of 25,000. There was general agreement among the five authorities to support the proposals in principle. The five were Berkshire C.C., Easthampstead R.D.C., Windsor B.C., Thames Conservancy and the Metropolitan Water Board.

The Minister said he wanted the project to go ahead with the fullest possible co-operation from the local authorities and the people living in the area. "This new town will be self-contained with population and industry," he said. "It will not be a dormitory. We want people to work, live and enjoy their recreation in the new town."

The proposal was intended particularly to help solve the urgent problem of rehousing the excess population in the over-crowded areas of West London. The Minister said that the next step, following consultation with the Berkshire C.C. and the Easthampstead R.D.C. in the actual area to be designated, would be the publication of a draft order designating the site of the new town.

£10,000,000 New Town.

LORD BEVERIDGE, chairman of Aycliffe Development Corporation, stated at a Press conference on August 16 that the cost of building Aycliffe, the new town near Darlington, County Durham, would probably be about £10m. The Corporation aimed at recovering the cost from the rents. The scheme would, he added, be subsidised by the Government only in its early stages. The first house, an aluminium prefabricated bungalow, would be erected in the next few days, and would be ready for its tenants early in October. Eventually, said Lord Beveridge, there would be about 3,000 houses for a population of about 10,000.

Beauty in Lighting.

THOSE interested in the art of stage lighting should visit the Haymarket Theatre, where Mr. Tennesee Williams's play "The Glass Menagerie" is being presented. The single set which figures in the play, an interior of a small house in St. Louis, U.S.A., is "sectionalized," and the two flanking streets can be seen at the sides. To this set Mr. Jo. Meilzinen, the American designer, has brought extraordinary beauty with the clever use of lighting and gauze curtains. Success has been predicted for this play. Undoubtedly the decor is a valuable contribution.

The Architects' National Council.

THE Honorary Officers of the R.I.B.A. have issued for publication the following statement: Many members will no doubt have received a circular from a body known as the Architects' National Council. In the circular it is stated that while the R.I.B.A. was not officially represented at the meeting at which the body was formally constituted it has the matter "under consideration." This is not correct. The matter came before the Council of the Royal Institute on May 4, 1948, and again on June 22, 1948, and on both occasions it was decided not to take part; and the sponsors were so informed.

Members will be aware from the statement by Sir Lancelot Keay published in the *R.I.B.A. Journal* of April, 1948, that the Institute has taken active steps in the matters dealt with in the circular.

Preserving the Lake District.

THE 1948 report and news letter of the Friends of the Lake District lists nearly 30 matters on which action had to be taken during the past year, as well as many subjects handled from week to week or day by day. They range from major threats like the raising of Ennerdale Water, the "hydro-electric monster" in the Duddon Valley, the enlarged gun range at Eskmeals, and War Office claims at Martindale, Warcop, and elsewhere, to smaller but still serious proposals, such as the surfacing of the roads to Watendlath, Blea Tarn and Wrynose, the design of houses, cottages, and even telephone kiosks.

The Society states it would be quixotic to suppose that disinterested and unofficial persons can protect the Lake District from injury; what was achieved was to protect it from injuries which would have been worse otherwise.

Colonial Liaison Officer Appointed.

MR. G. A. ATKINSON, B.A. (Arch., London), A.R.I.B.A., has been appointed by the Department of Scientific and Industrial Research as Colonial liaison officer on building research, and will be stationed at the Department's Building Research Station, Garston, near Watford, Herts. Mr. Atkinson's primary tasks will be to collate and classify information about building in the Colonies and help all Colonial governments to make the fullest use of the scientific study of building and housing carried out in Britain by the Building Research Station. He will also deal with specific technical inquiries from Colonial governments on building problems. It is intended that, when required, he will visit Colonial territories. Each of the Colonial Governments has been asked to nominate an officer to act as correspondent with the liaison officer.

Trafalgar Day Ceremony.

THE ceremony of the unveiling of the busts of Admirals Earl Jellicoe and Earl Beatty at the north wall of Trafalgar-square, on Trafalgar Day, October 21, will be the biggest naval occasion London has seen since the 1914-1918 war. The Duke of Gloucester will unveil the busts, which have been in store for nine years. The ceremony, planned for 1939, was postponed owing to the war.

Professional Announcement.

MESSRS. MENCE AND MOORE, A. and L.R.I.B.A., have removed to 4, Halkin-place, Belgrave-square, S.W.1 (Tel.: Sloane 6395). Their West Indies office is: 33, Abercromby-street, Port of Spain, Trinidad.

FROM "THE BUILDER" OF 1848

Saturday, August 19, 1848.

IS A PERPETUAL MOTION AT LAST DISCOVERED?—An intelligent friend, in whom we have confidence, writes to us gravely from Lille, to state that a mechanic there, after thirteen years' effort, has positively obtained *the means of perpetual motion.* Parties have formed themselves into a company to bring the discovery before the public, and on Tuesday in last week a meeting of these, including some engineers connected with mines, was held to witness the machine in operation, and the only objection made, according to our informant, was that it was not applicable to navigation; but this the inventor denies, maintaining its applicability to all purposes. The present machine is of wood, but it is decided to make one of iron. We need scarcely say that we are not believers in perpetual motion, having the word *friction* floating in our mind, and we have often cautioned correspondents against being led into so dangerous and deceitful a chase; but in this case the circumstances are put before us by so careful a mind that we are bound to wait rather than to scoff. A belief prevails there that the British Government some time since offered an enormous premium for the discovery of this power, but we are disposed, after inquiry, to consider this belief erroneous.

DEMOLITION OF A STATION ROOF

IMPROVEMENTS AT BIRMINGHAM

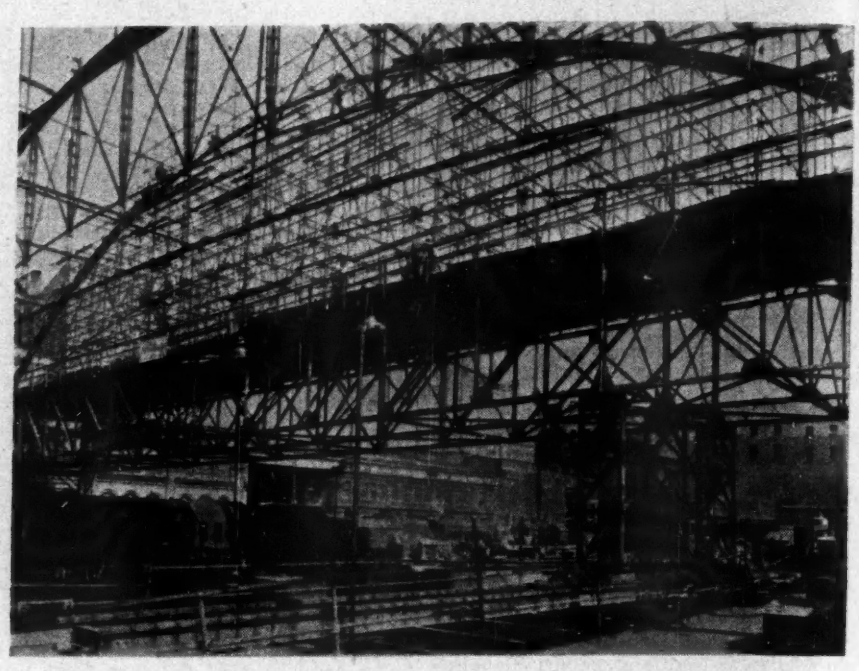
SPECIAL interest attaches to the recent demolition and reconstruction scheme carried out at New-street Station, Birmingham, where, under the direction of Mr. W. K. Wallace, Chief Civil Engineer, London Midland Region of British Railways, a large arch-type wrought iron roof was removed, and replaced by a modern temporary structure, with a minimum of interference to the working of the station. This work was begun by the former L.M.S. Railway in November, 1945, and work on new roofs was completed in April, 1948.

The original roof, built in 1852, consisted of 36 bowstring trusses in wrought iron, 24 ft. apart, forming 840 ft. of continuous roofing. This roof was designed by Mr. William Baker, then Chief Engineer of the L.N.W.R., and its construction was carried out by Messrs. Fox, Henderson and Co., Ltd., of Smethwick. For over 90 years the roof stood up well to all normal stresses and strains, but war-time bombing finally rendered it unserviceable.

An unusual problem when planning the demolition was the variation in the spans of the trusses, owing to the layout of the station being on a curve; a further problem had been unwittingly created in 1906, when the roof was strengthened, as a safety measure, following the collapse of a similar roof at Charing Cross Station, London. At New-street the total weight of 1,050 tons of wrought and cast iron forming the original roof was increased by a further 200 tons of steel in the form of additional bottom ties.

Of the 36 trusses supporting the roof, access was obtained in the case of nine trusses by means of tubular steel scaffolding built up from the permanent way; the remaining 27 were dismantled with the aid of two travelling steel gantries. The trusses were burned down by the oxy-acetylene method in five-feet lengths, for subsequent furnacing, and were lowered from their positions directly down into wagons on the track below by means of catheads fixed to the scaffolding.

In the removal of the first nine trusses, the tubular scaffolding was built up from the railway tracks in bridge formation to avoid interference with trains using the station. The scaffolding was carried right up to the top of the arch of the roof and so arranged that the arched boom was cradled every ten feet. The same procedure was applied to the original and strengthening ties. The cradling at ten feet intervals was carried out in order to resist the kick which was anticipated would occur when the principal was cut, without affecting the columns on the one side of the roof and the wall on the other. To minimise the kick, the top boom was cut starting at the crown, along the centre of the web, thus reducing the area of resistance to the induced load of 24 tons applied by the additional bottom ties erected in 1906.



One of the travelling gantries showing grillage for track over subway.

The two travelling gantries used in the removal of the remaining 27 trusses were designed by Mr. Wallace, and made and erected by Messrs. Rubery Owen and Co. Ltd., of Darlaston. The gantries spanned the station across the tracks and travelled along a track built up on the platforms.

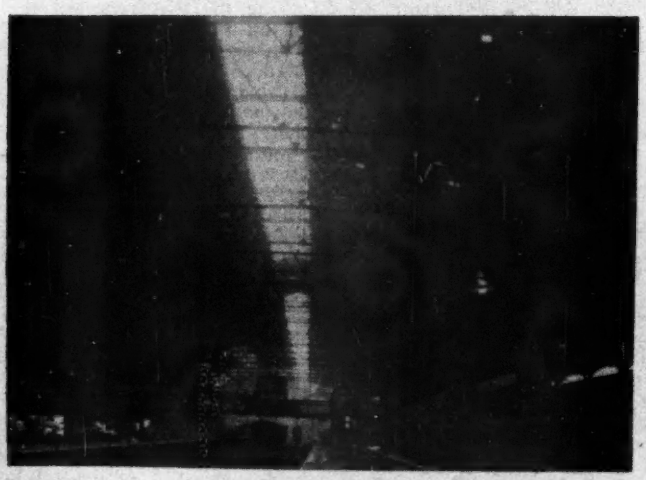
Tubular scaffolding was erected on the gantries extending up to the arched boom of the truss and cradling it every ten feet.

The platform of each gantry was 25 ft. wide and constructed of timber with steel supports; each gantry carried 50 tons of equipment. As the gantries were moved to each new position, a portion of the scaffolding used for cradling the trusses had to be dismantled and re-erected beneath the next truss to be dealt with.

The time taken for the demolition was 15 months. The number of men employed on the contract, which was carried out by the Altitude Contracting Co., Ltd., was 85, and the shortest time taken to remove one truss was four days.

As the demolition work proceeded railway gangs erected over the platforms temporary roofing of the awning type consisting of corrugated asbestos sheeting interspersed with Perspex sheets, supported on a simple steel framework. The steelwork was of the A.R.P. stock type, comprising mainly 12 in. by 8 in. and 24 in. by 7½ in. joists. In the construction of the temporary roof framework, 12 in. by 8 in. stanchions were used to support 24 in. by 7½ in. joist longitudinal beams which, in turn, supported 24 in. by 7½ in. joist cross beams at 20 ft. centres spanning over from platform to platform.

The roof covering was constructed with the covering following the line of the platform coping and projecting 3 ft. beyond the nosing of the platform. A complete drainage scheme was also carried out to deal with water from the awning roofs and surface water on the permanent way.



The old roof with lantern removed.

The new roof awnings, from the London end.

COMPETITION NEWS

PUBLIC TELEPHONE KIOSKS, EIRE

THE assessors, Professor J. V. Downes, B.Arch., F.R.I.A.I., F.R.I.B.A., Mr. C. MacFhionnlaoich, B.Arch., F.R.I.A.I., and Mr. Raymond McGrath, B.Arch., F.R.I.B.A., in the competition for designs for public telephone kiosks for the Department of Posts and Telegraphs, Eire, have announced their award as follows:—

FIRST (£250). — Neville Conder, A.R.I.B.A., A.A. (Hons.) Dip., 807, Howard House, Dolphin-square, London, S.W.1.

SECOND (£70). — J. G. Browne, A.R.I.B.A., 18, Thornhill-avenue, Tolworth, Surbiton, Surrey.

THIRD (£25). — Stanley H. Smith, A.R.I.B.A., 8, Stone Hall-road, Winchmore-hill, N.21.

Thirty-seven entries were received.

The general conditions governing the competition stated that sets of five designs were invited for public telephone kiosks of standardised character containing: (a) one compartment; (b) two compartments; (c) three compartments; (d) four compartments; (e) five or six compartments on an unrestricted site.

The conditions also stated that it was desirable that kiosks should be constructed as far as possible from standard parts, i.e., from parts which could be used in the construction of all types of kiosks, and that designs should be capable of prefabrication in a factory and of easy assembly on site; without restriction as to design or construction competitors should endeavour to use structural materials of Irish origin or manufacture as far as possible; and that competitors should aim at providing kiosks, the cost of which, at current prices, should not exceed £60 per compartment, approximately.

The Winner's Report.

In his report, Mr. Conder states:—

The design is primarily for a multi-compartment system.

PLAN.—Advantages claimed for this with the service unit on the wall at right-angles to the door are:—

(1) Good light, even when the kiosk is central to a series and when that series is placed against a wall.

(2) Not dependent on side light walls for light, allowing a substantial "privacy barrier" between compartments.

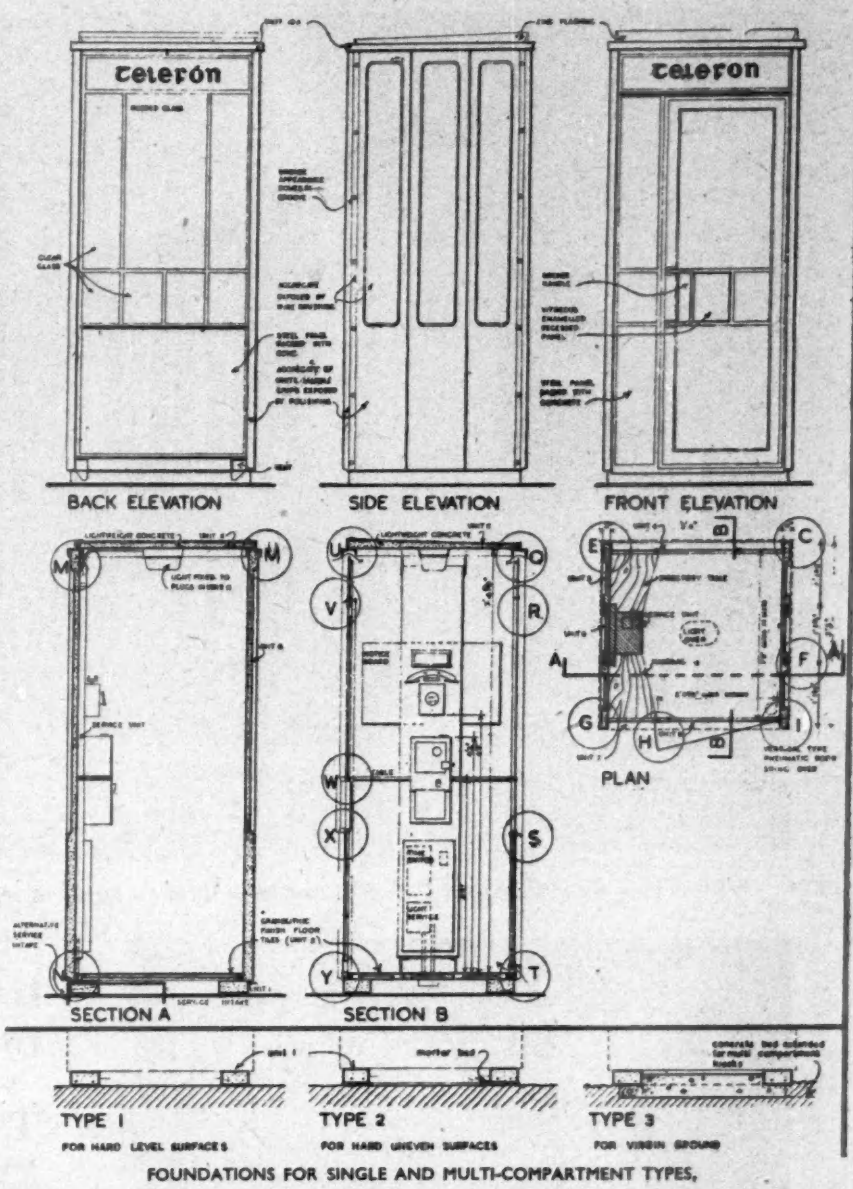
CONSTRUCTION AND MATERIALS.—The roof is of felt-covered lightweight concrete slabs set on roof frames and inverted 4 in. by 1½ in. steel channels.

The cross walls support the roof. They are of three "planks" of precast vibrated concrete and the outside face of these "planks" is recessed to save weight and the aggregate of white marble chips is exposed by white brushing within the recess. On the main face the aggregate is exposed by polishing. The grooves near the edge of each outside "plank" help to form the weatherproof joint to the window walls and control streaking from the special locking bolts.

The window walls are of standard steel sections with steel bracing panels backed with concrete at a low level. There is an indirect low level vent and drain at the back. At the head of each window wall the inverted channel roof frame forms a continuous indirect vent; the only possible reflected surface is treated with an acoustic spray.

The foundation plinth is of precast concrete and incorporates fixing lugs, grooves to control streaking and the channel for service intake and for the inter-connection of services for compartments built in series. Services may be laid first or may be brought to the site afterwards. Three granolithic tiles form the floor.

The steelwork is painted dark blue-green and the lettering is crimson on white glass; the recessed panel behind the door handle, which is central to the entrance elevation, is of crimson vitreous enamelled steel.



FOUNDATIONS FOR SINGLE AND MULTI-COMPARTMENT TYPES.

COMPETITION: FOR PUBLIC TELEPHONE KIOSKS, EIRE

WINNING DESIGN: By NEVILLE CONDER, A.R.I.B.A., A.A. (Hons) Dip.

ROYAL NATIONAL EISTEDDFOD COMPETITIONS

The results of the architecture and town and country planning competitions held in connection with the Royal National Eisteddfod of Wales, Bridgend, 1948, have been announced by the assessors, Mr. C. F. Bates, F.R.I.B.A., and Mr. T. Alwyn Lloyd, F.R.I.B.A., P-P.T.P.I., respectively. The results are as follows:—

ARCHITECTURE.—"A County College." (First Prize £50). Winner. Mr. Norman D. Ayres, Dip.Arch. (Wales), A.R.I.B.A. County Architect's Dept., Buckinghamshire C.C., Aylesbury.

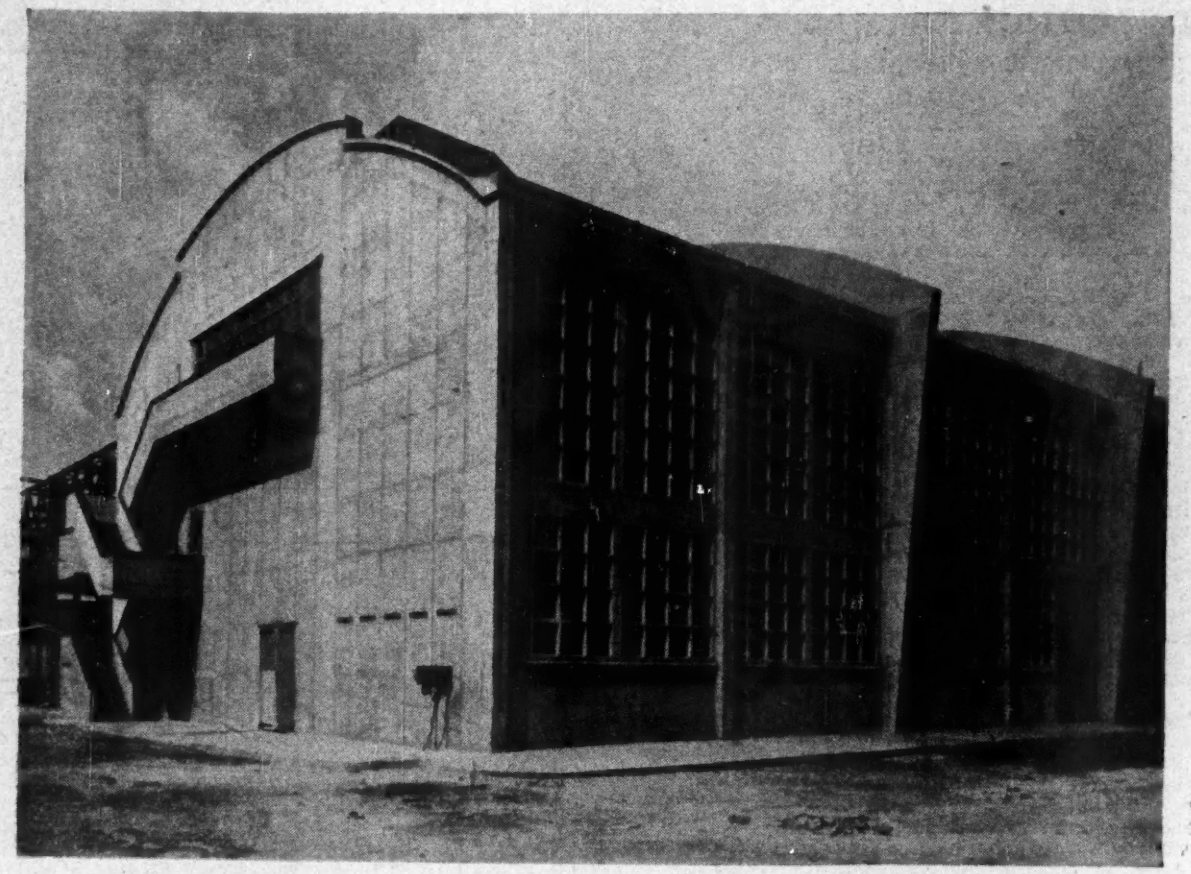
Highly Commended. Mr. Geoffrey P. Platt, A.R.I.B.A., C.W.S. Architect's Dept., 1, Balloon-street, Manchester.

TOWN AND COUNTRY PLANNING.—"A Neighbourhood Layout for a Population of 10,000." (First Prize £50). Winner. Mr. Merlyn C. Williams, Dip.Arch. (Wales), A.R.I.B.A. City Housing Architect's Dept., Civic Centre, Birmingham.

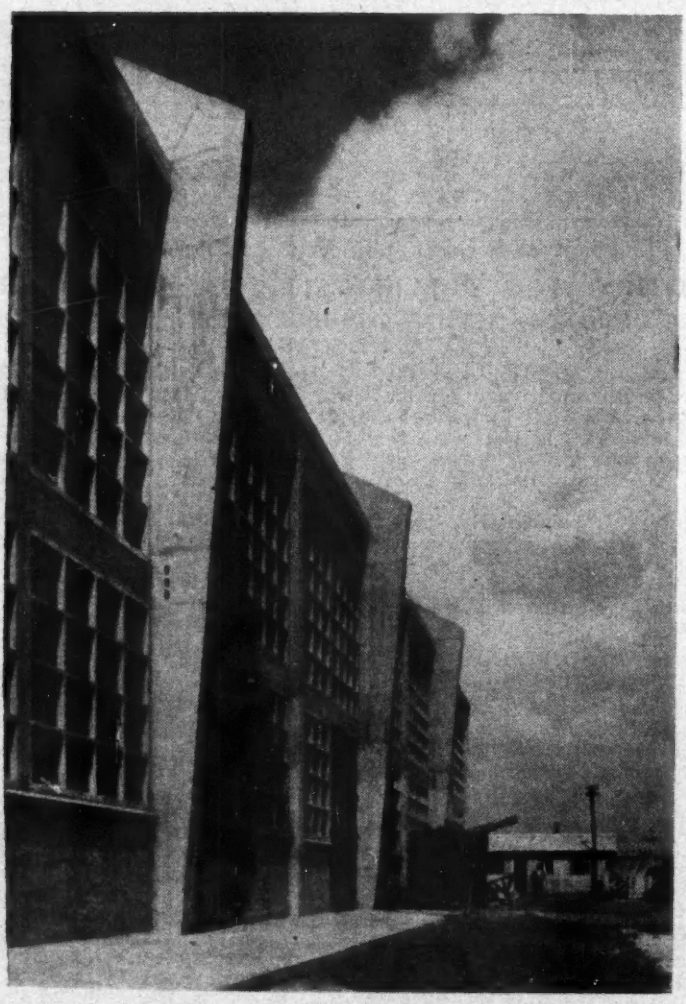
Highly Commended. Miss Ishbel Sim, A.R.I.B.A., 1, Babmaes-street, S.W.1.

Architects' Benevolent Society.

THE annual report of the Architects' Benevolent Society, 66, Portland-place, W.1, has just been published. It is worth noting that the Society now issue collecting boxes on request. Many of these have been placed in architects' offices and departments and have provided a new source of income during the past year. It is hoped that these boxes will overcome the difficulty of those who cannot afford to give a subscription which they think large enough to send separately. Although the Society is in a better financial position, this year the higher cost of living may necessitate a raising of the grants already given and subscriptions and donations of any size will be gratefully received.



View from South-East Corner of Building. *Below:* **Detail of reinforced concrete Bents.**

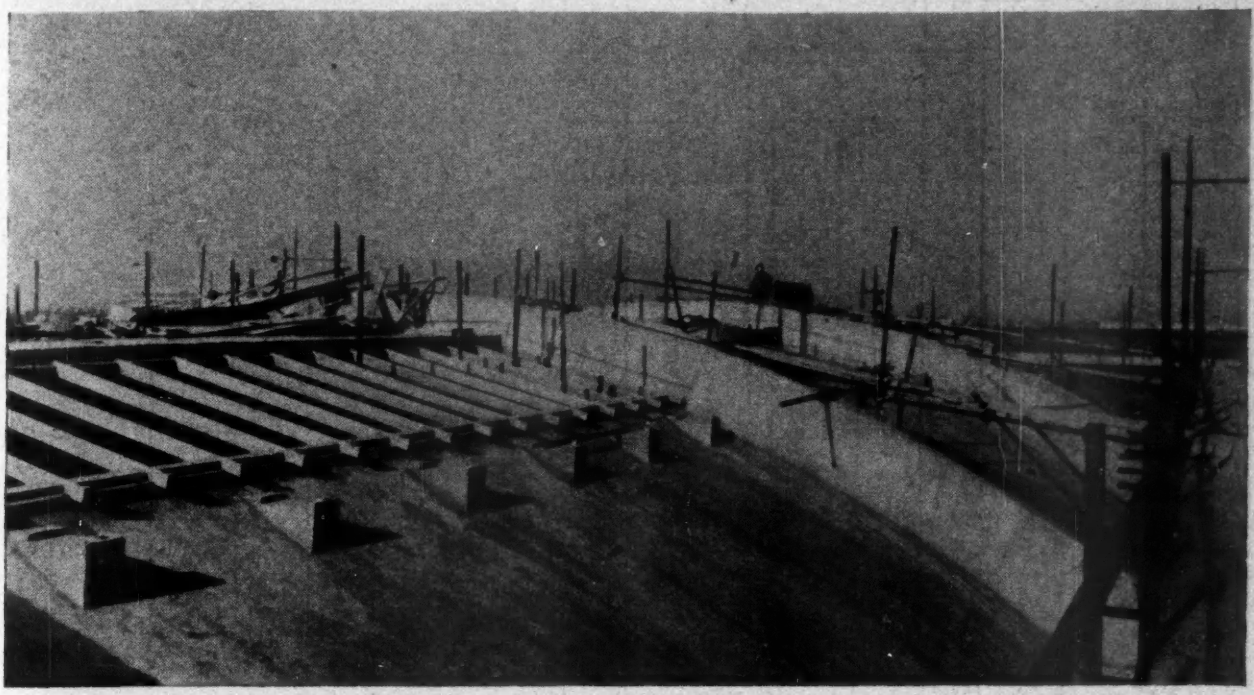


A FACTORY AT DAGENHAM, ESSEX

EDWARD D. MILLS, F.R.I.B.A., ARCHITECT

THIS FACTORY BUILDING, AT DAGENham, Essex, for Messrs. May and Baker, Ltd., was required to house chemical manufacturing plant, together with a laboratory and office for chemists in charge of the building. The building was designed as a weather-proof covering over plant to be erected at various levels, and the structure was required to interfere as little as possible with the free arrangement of the plant within the building. Plant will be erected on the first floor platform and the ground floor, and a light mezzanine floor will be erected, as the plant lay-out demands, between the two levels. Emergency exits are provided at all floor levels and communication is by means of external and internal staircases and a goods lift of 1-ton capacity. 5-ton travelling cranes run the entire length of the building on east and west sides for installing and removing plant. The building is surrounded by a concrete pavement for storage of raw materials prior to use, or for operations which cannot safely be carried out in an enclosed space.

The building is 144 ft. long and 64 ft. wide with a single-span reinforced concrete shell membrane roof (2½ in. thick) stiffened by three reinforced concrete portal frames. The walls of the buildings are reinforced concrete with concrete windows on the east and west elevations practically the full height of the building. The shell concrete roof is broken by longitudinal reinforced concrete purlins to take roof glazing, re-



Exterior of Barrel Roof during construction, showing precast concrete roof glazing and supports for the walkway.

movable flat slabs for upward plant extensions, and support for an extract ventilation duct running the full length of the building. The first floor platform is a reinforced concrete slab carried on structural steel framework. Office and laboratory partitions are 4½-in. brickwork plastered and painted. The shell concrete roof is finished externally with two coats of bituminous emulsion.

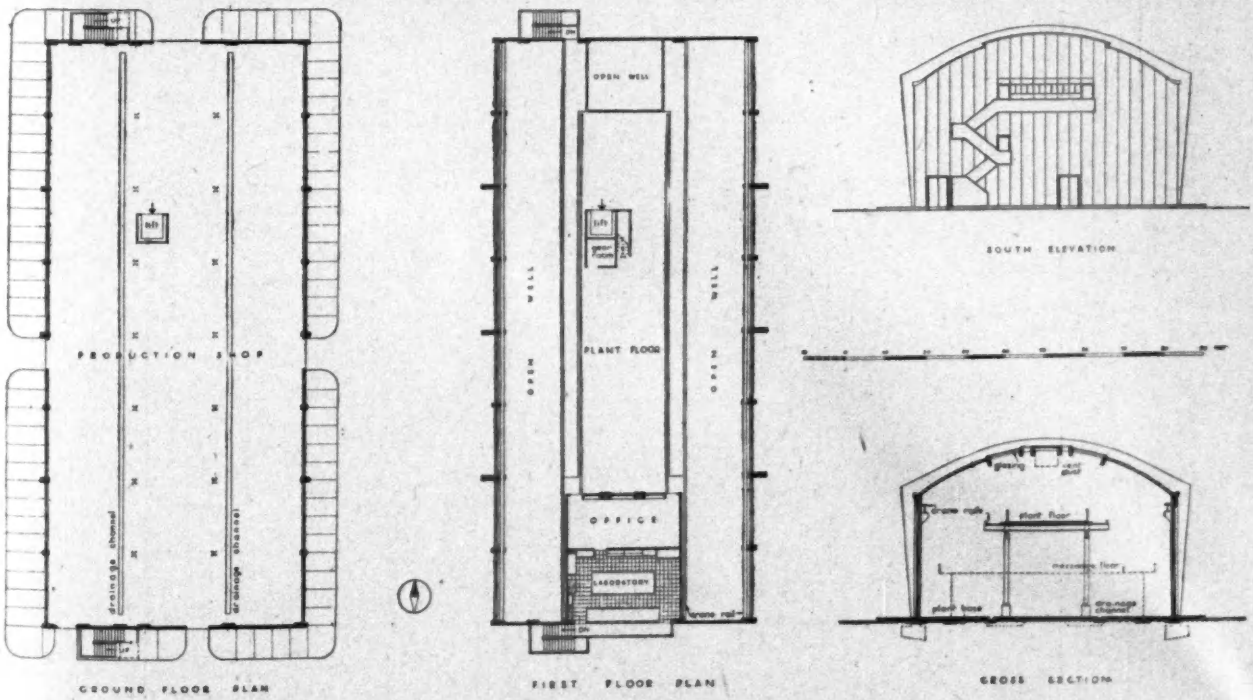
In view of the atmosphere of a chemical factory, materials likely to suffer from corrosion have been avoided, and where this is impossible careful protective measures have been taken to reduce maintenance costs.

The internal walls to the manufacturing section of the building are in natural concrete and the internal surface of the roof is insulated with ½ in. fibreboard as permanent shuttering, and plastered. Laboratory floors are tiled and the office floor is covered with ¼-in. lino. Fixed laboratory fittings are constructed with sandlime brick supports, and tiled concrete tops.

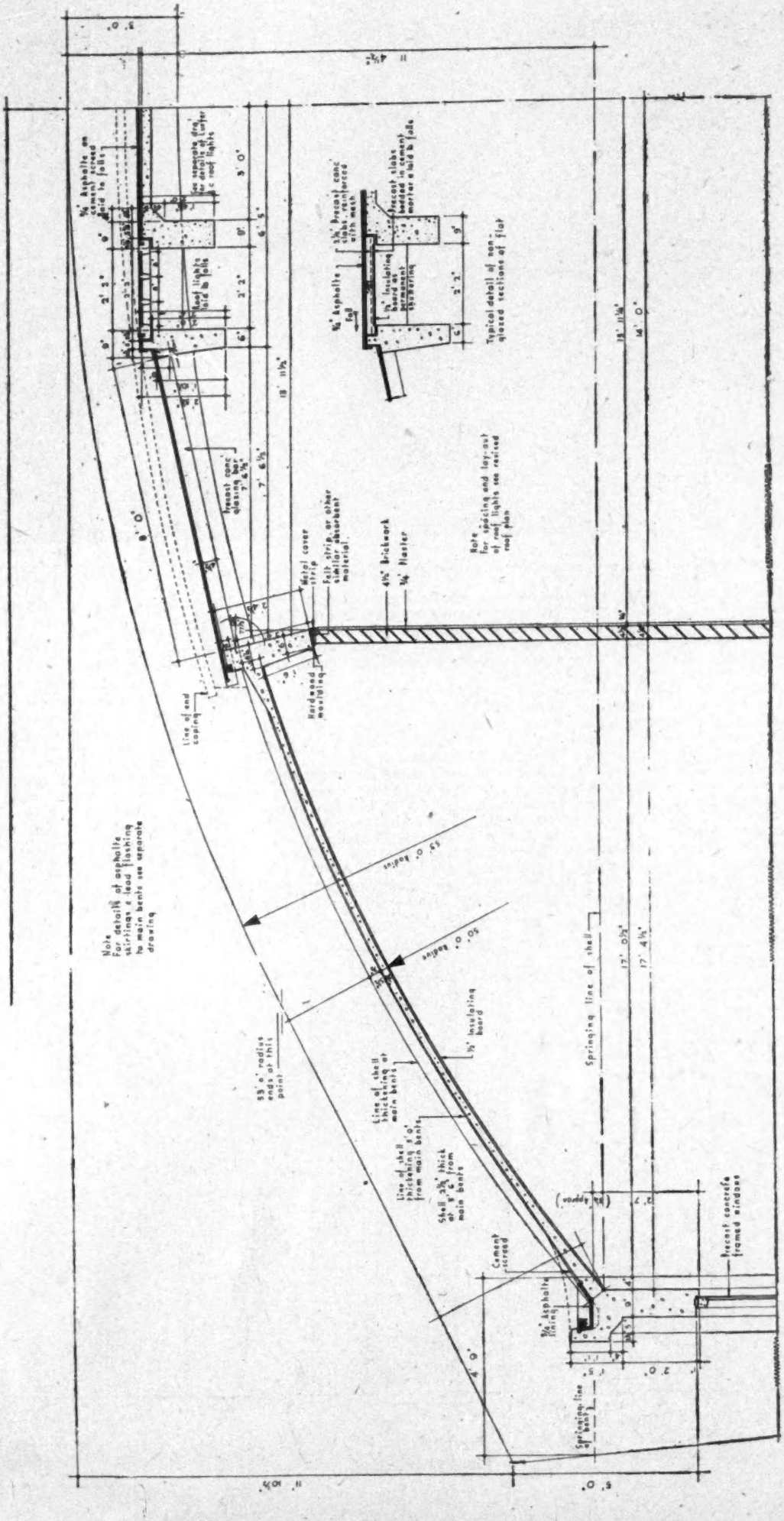
The architect was Mr. Edward D. Mills, F.R.I.B.A., and the quantity surveyors were Messrs. May and Clark, AA.I.A.A.S. Messrs. Barrel Vault Roof (Designs), Ltd., acted as engineers.

The work was carried out under single contract, with Holland & Hannen and Cubitts, Ltd., acting as building managers, using direct labour provided by the clients' permanent building staff.

Sub-contractors were as follows:—Limmer & Trinidad Lake Asphalt Co., asphalt; Twisteel Reinforcement, Ltd., reinforcement; London Brick Company, bricks; Richardson & Co., Ltd., precast concrete; H. Young & Co., Ltd., structural steel; Berry Wiggins & Co., Ltd., bituminous roofings; Luxfer, Ltd., roof lights; Pilkington Bros., Ltd., glass; J. A. King & Co., Ltd., patent glazing casements; Cellulin Flooring Co., lino flooring; Arthur Scull & Sons, Ltd., office and lab. central heating and office and lab. ventilation; Rylands Electrical Co., Ltd., electric wiring; Holophane, Ltd., electric light fixtures; Parker, Winder & Achurch, Ltd., door and window furniture; Fireproof Shutter & Door Co., rolling shutters; G. H. Greene & Sons, plaster; Allen & Greaves, Ltd., metalwork; R. Cattle & Sons, joinery; Osgood, tiling; North of England School Furnishing Co., Ltd., lab. fittings; William Wadsworth & Sons, Ltd., lifts.



Plans and Sections.

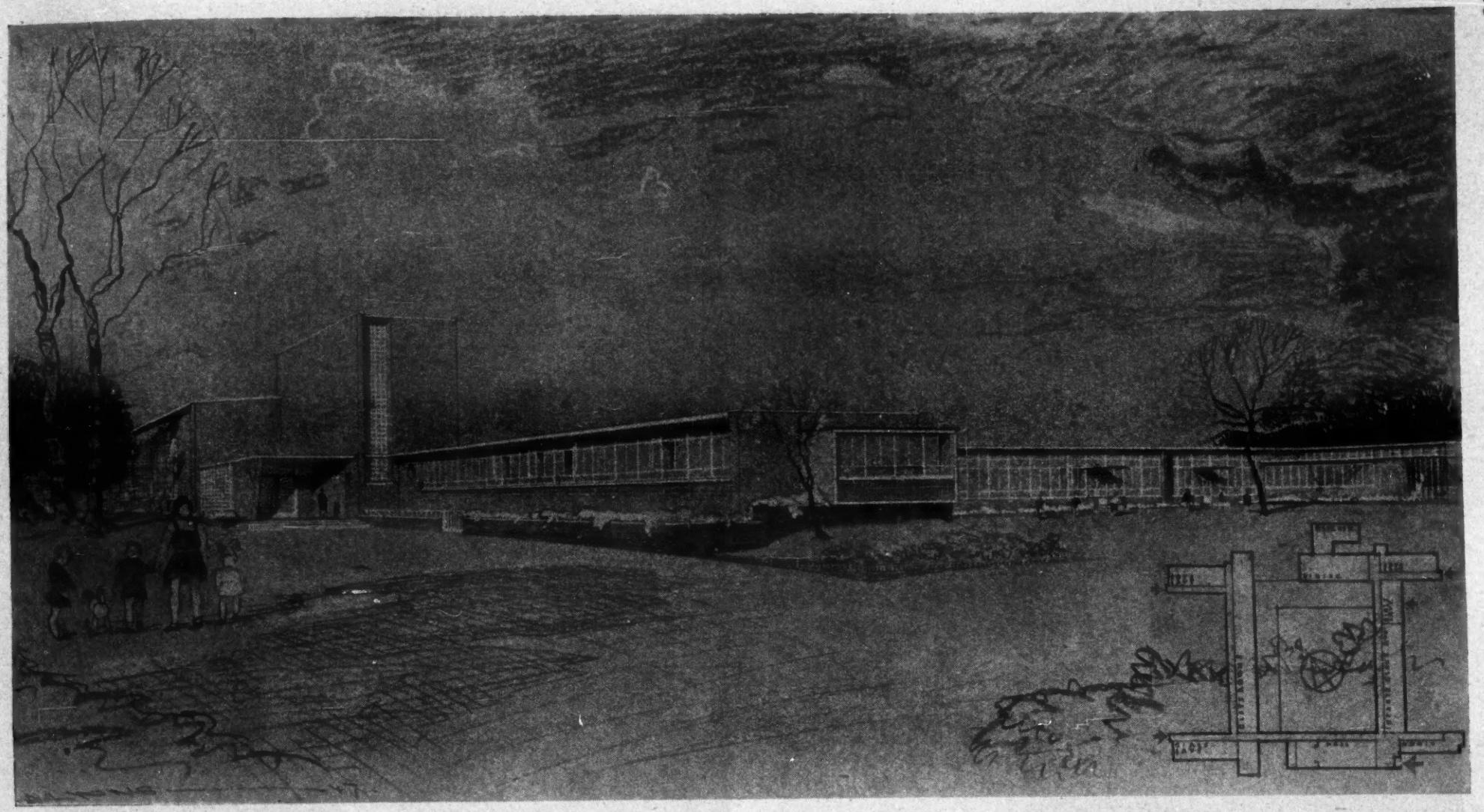

Typical detail of non-glazed sections of flat
Note
For spacing and lay-out of roof lights see roof plan
Note
For details of asphalte skirtings & lead flashing to main beams see separate drawing
Line of end coping
Hardened mouldings
Metal cover strip
Felt strip or other similar absorbent material
4½" Brickwork
¾" Plaster
Precast conc glazing bar
Roof lights laid in jobs
Precast conc slabs reinforced with mesh
Precast slabs bedded in cement mortar & laid in jobs
½" Insulating board on asphalte bedding
¾" Asphalte on boarded roof laid in jobs
Line of shell thickening at main beams
Line of shell thickening 2'-0" from main beams
Shell 2½" thick at 2'-6" from main beams
½" Insulating board
Springing line of shell
Cement screed
¾" Asphalte skirting
Precast concrete framed ringbeam
Springing line of beam
55'-0" radius
50'-0" radius
55'-0" radius ends at this point

Details of Barrel Roof Construction.

General View of Interior at Ground level.

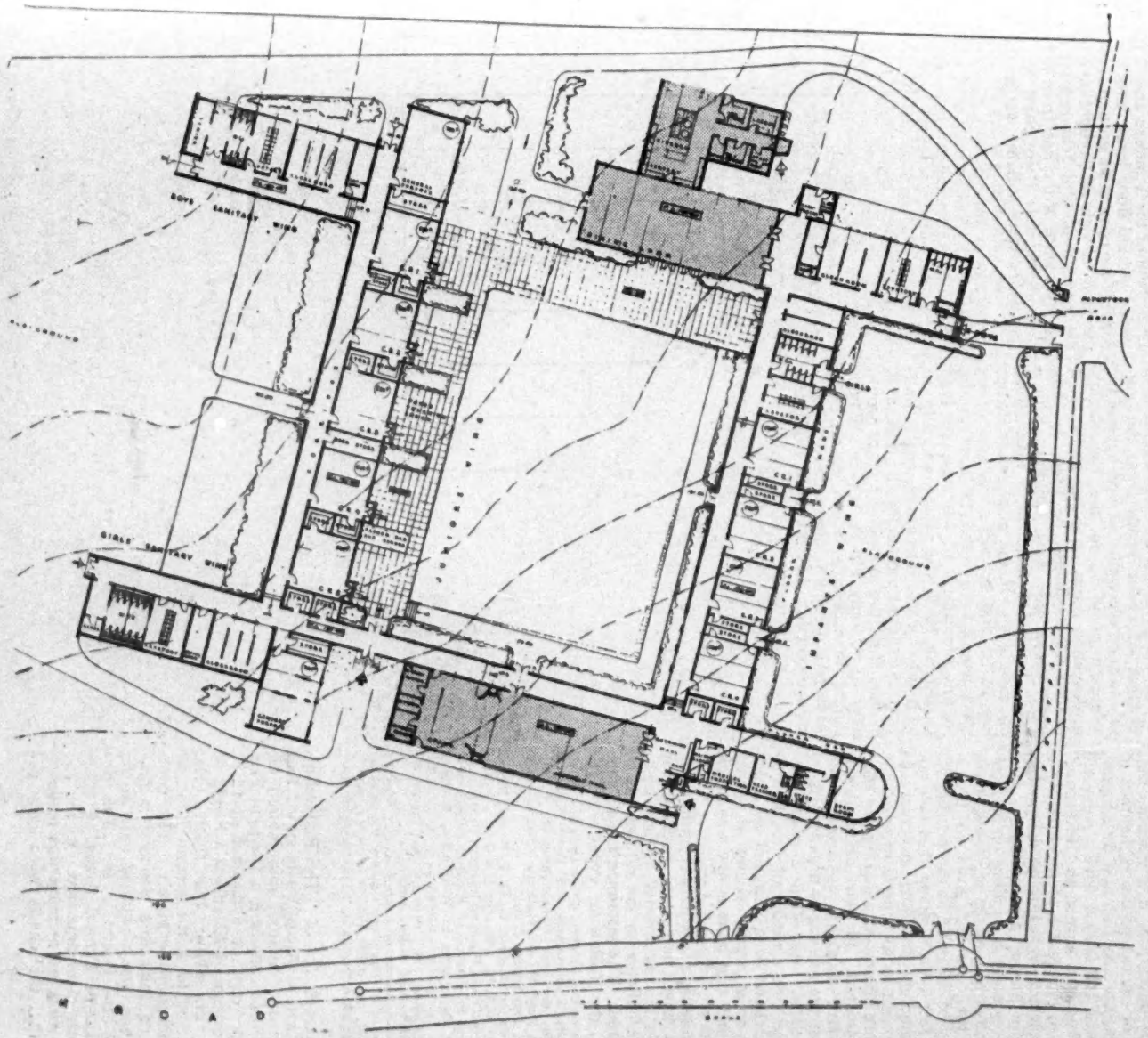
Interior from elevated central floor, showing roof structure.

A FACTORY AT DAGENHAM, ESSEX. EDWARD D. MILLS, F.R.I.B.A., ARCHITECT.



BEXLEY WELLING, APPLE AVENUE, PROPOSED COUNTY PRIMARY SCHOOL

SIDNEY LOWETH, F.S.A., F.R.I.B.A., Kent County Architect. R. T. GREEN, F.R.I.B.A., Deputy, and D. W. DICKENSON, A.R.I.B.A., Architects in charge of School Buildings. W. C. BLASTLAND, Assistant Architect.



BEXLEY WELLING, APPLE AVENUE, PROPOSED COUNTY PRIMARY SCHOOL

THIS NEW SCHOOL IS TO BE ERECTED IN A RAPIDLY developing area on the borders of London. The school is planned in two departments, for 220 juniors and 220 infants. The accommodation provides for nine classrooms, two larger general-purpose rooms, an assembly hall, an administration wing, a canteen, and the usual cloakrooms and offices. Owing to the present-day difficulties of obtaining materials and labour, the building will have to be completed in stages, and the classrooms and administration wing will be provided in the first instance, followed by the canteen and later by the assembly hall.

The classrooms are planned in two wings, the larger wing with five classrooms and the two general-purpose rooms for juniors and four classrooms for the infants. Each wing has access to its own playground area. The assembly hall may, on occasions, be required for community purposes and is therefore planned so that it may be cut off from the rest of the school if so required. Provision is being made for the hall to be wired for wireless, and equipped for the showing of educational films. Special attention is being given to the acoustic properties of the hall.

There is a fall across the site from north-west to south-east. The classroom wings have each been planned on one level and have a south-east aspect, with direct access to a paved area which can be utilised for outdoor teaching if and when required. The staff rooms have an aspect slightly west of south. The canteen is placed on the north of the site where access can readily be obtained from a side road for the delivery of goods.

The construction of the building will be of steel framing with brick infilling for the walls. Large windows form one side of every classroom with an adequate clerestory window on the corridor side.

Flooring generally will be in a jointless composition, according to the availability of the materials at the time of erection. Roofing will be of an aluminium structural unit, finished with bituminous felting supplied by Messrs. Briggs, Ltd.

The architect for the scheme is Mr. Sidney Loweth, F.S.A., F.R.I.B.A., Kent County Architect. Mr. R. T. Green, F.R.I.B.A., Deputy, and Mr. D. W. Dickenson, A.R.I.B.A., are the architects in charge of school buildings, and Mr. W. C. Blastland, assistant architect. The consultant engineers are Messrs. J. Stinton Jones and Partners, and the quantity surveyors are Messrs. Dearle and Henderson, F.R.I.C.S.

The general contractors will be Messrs. Kent and Sussex Contractors, Ltd., and the steelwork will be supplied by Messrs. T. W. Palmer (Merton Abbey), Ltd.

PLANNING FOR DAYLIGHT

Some comments on the M.O.T.C.P. "Indicators"

By JOHN SWARBRICK, F.S.A., F.R.I.B.A.

FOR the benefit of those who find it difficult to understand the simple methods of measuring daylight now in general use throughout the country, the Ministry of Town and Country Planning has endeavoured to find means whereby the permissible heights of buildings can be determined, at a glance, by merely placing a transparent fan-shaped diagram upon a plan drawn to the same scale as the diagram. If this result could have been attained, for all the conditions that may be anticipated, the solution suggested would have been a discovery of importance to architects, surveyors and town planning consultants generally. Unfortunately, that is not the case. The method suggested does not ensure exact results. There is, in practically all cases, some margin of error, and it is possible for the margin to be so great as to render the result obtained of negligible value. In cases in which sites of considerable value have to be developed, it is essential that graphical or optical precision methods of daylight measurement should be adopted. The optional fan-shaped device suggested by the Ministry is termed an "Indicator." By pivoting the centre of radiation of a suitably selected Indicator on a frontage, street centre line or plot boundary, it is possible to obtain a reading on the circumference of one of the segments of the Indicator that, we are given to understand, may be regarded as the permissible height in feet of a building that will not obstruct daylight to other structures to such an extent as to deprive them of the natural illumination regarded by the Ministry as essential. In most cases, this is only hopeful thinking, as investigation proves that the reading is usually a mere approximation, and often a most misleading one. As a matter of fact, Indicators could have been designed in a different way so as to give readings of greater accuracy, but that issue is not now under consideration.

The available particulars regarding the Indicators have only been released for publication by instalments, and no comprehensive bulletin on the subject has so far appeared. The instalments were published in the following order:—

(1) *Reconstruction in the City of London.* Final Report to the Improvement and Town Planning Committee by the Joint Consultants: Dr. C. H. Holden and Prof. W. G. Holford. April, 1947. Appendix C. Daylighting Code.

(2) *Planning for Daylight*, by G. T. Pound, B.Sc., M.Inst.C.E., M.T.P.I. (May-June number of the "Journal of the Town Planning Institute," 1947).

(3) *A Form of Control of Building Development in Terms of Daylighting*, by Wm. Allen, B.Arch., A.R.I.B.A., and D. Crompton, A.R.I.B.A., A.M.T.P.I. (August, 1947, issue of the "Journal of the Royal Institute of British Architects").

(4) *The Redevelopment of Central Areas*, published by the Ministry of Town and Country Planning in January, 1948, but dated 1947, Chapter 3, paras. 162 to 166, and Appendix 3, "The Daylighting of Buildings."

In paragraph 164 of "The Redevelopment of Central Areas," it is stated that the standard of natural illumination recommended for offices is a Daylight Factor of 1 per cent., at a distance of 12 ft. from the external wall and at a height of 2 ft. 9 in. above the floor. (The floor referred to is the ground floor, as prior publications explain.) The complete set of Indicators, which it is proposed to use, was illustrated only in the paper by Mr. Pound. In "The Redevelopment of Central Areas," a selection of only eight appeared. In the latter publication, no mention was made of the fact that the charts were only designed to give the illumination of 1 per cent. Daylight Factor in the case of non-residential buildings, when the ground floor windows rise to a height of 10 ft. above table level and are 10 ft. wide.

MINOR INCONSISTENCIES

In order to test the efficiency of the Indicators, let us take the one marked C1 as typical. This is stated to relate to buildings "on the plot," or presumably in the same ownership; but from the point of view of daylight this is immaterial, as the need for daylight in buildings is the same, whether the site is in the possession of one, two or three owners. In this case the Indicator has been marked PBC in Fig. 1, as they were all so lettered in Mr. Pound's paper. Owing to the angle of obstruction from street level only being about 40 degrees, the "No Sky line" or limit of visible sky would penetrate at table height to a distance of about 14 ft. from the outside face of the wall and well beyond the reference point R, in the hypothetical investigation room, as shown in Fig. 1. If this Indicator should be used, a 60-ft. street could only have buildings with a sheer height of little more than 50 ft. on each side. If the adjacent buildings are to be 100 ft. high, the intervening space would have to be 119 ft., according to this Indicator. If, however, the land should not be in the same ownership on both sides of the intervening space, Indicator A1 should presumably be used, and, in that case, the intervening space would have to be only 116 ft. wide. Why it should be necessary to provide an extra three feet of width, where there is common ownership, has not been explained.

When we consider the value of a strip of land 3 ft. wide and possibly 300 ft. long, in (say) the central part of the City of London or some other fully developed urban area, we can judge what the financial loss would be, when the ownership is the same on both sides of the intervening space. In the case of Indicator A1, the point of application is in the centre of the street or plot boundary and not at the frontage line, as in the case of Indicator C1, but that is a mere technical detail which cannot affect daylight requirements.

On Fig. 1, Indicator C1 is represented at the bottom of the diagram by the fan marked PBC, as stated. The heights of prospective structures permitted by the Ministry of Town and Country Planning are shown by firm lines from Z, where the approved height is 30 ft., to X, where the approved height is 100 ft. The point of application of the Indicator at the frontage line at ground level has been marked P. The reference point for testing daylight efficiency is at R, in the hypothetical room, which in the case of non-residential buildings is assumed to have windows 10 ft. wide and 10 ft. high. The reference point, it will be observed, is 12 ft. behind the frontage and 2 ft. 9 in. above ground floor level, which is taken for this purpose to be ground level. From the point of view of daylight investigators, the most important feature of Fig. 1 is the divergence of the line from R to point X from the line P to point X. If the Indicators were reliable gauges of day-

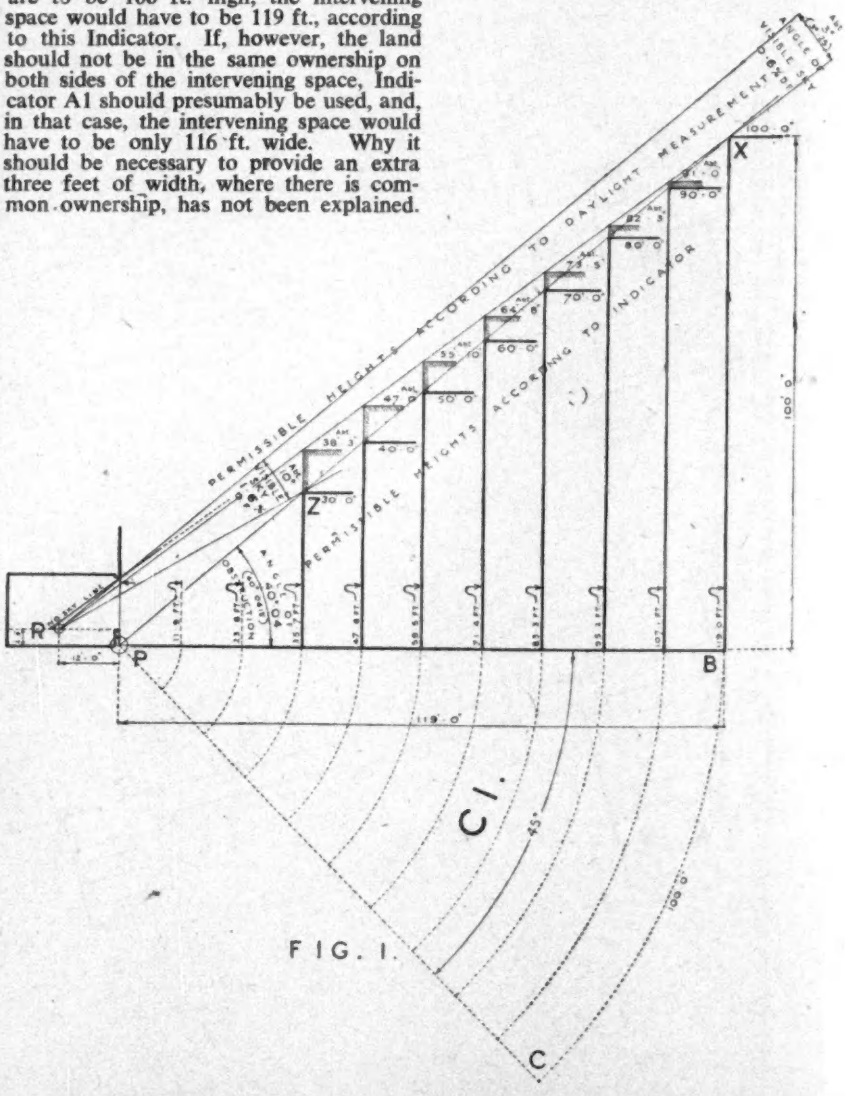


FIG. 1.

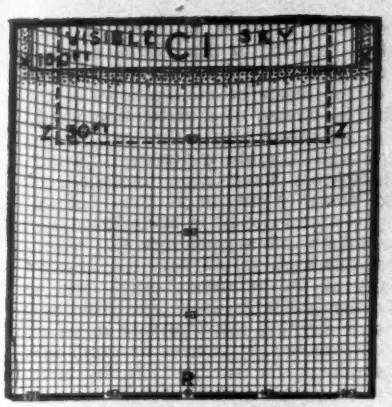


Fig. 2.—Perspective Chart.

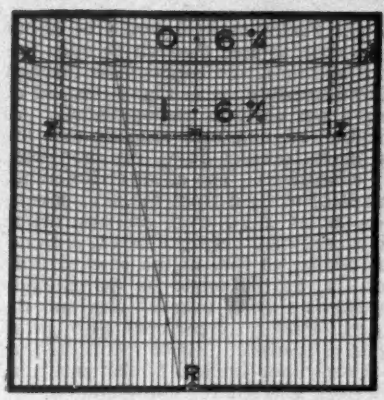


Fig. 2a.—Daylight Factor Grille for measuring direct light, on the horizontal plane, through unglazed openings. (Unit of illumination: 0.0025 per cent. Daylight Factor.)

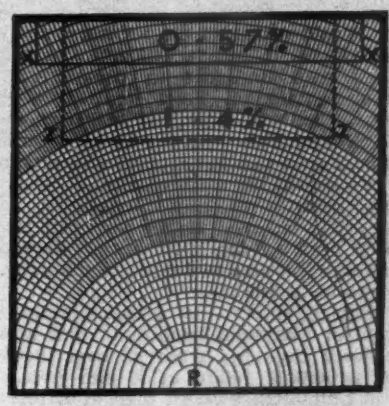


Fig. 2b.—Daylight Factor Grille for measuring light, on the horizontal plane, through vertical glazed windows. (Unit of illumination: 0.0016 per cent. Daylight Factor.)

light intensity, the line from R to X would be coincident with the line from P to X, which is physically impossible with the *modus operandi* contemplated.

The extent of the divergence of these lines is the gauge of error in respect of daylight measurement, in this particular case. If the solid angle of visible sky or "Raumwinkel," as the Germans call it, between the head of the window and the top of the proposed obstruction, 100 ft. high, at X, as regards altitude, and between the limits of azimuth or horizontal bearing prescribed, is sufficient to provide the standard illumination required at the point R, it follows obviously that, as far as natural illumination is concerned, the Ministry might have permitted structures to rise to greater heights, so long as they do not intercept the rays of light passing along the line from X to R. If the permissible heights of buildings had been determined according to the demands of daylight and the solid angle of visible sky had been determined with scientific accuracy, it would follow that the Ministry might have permitted the permissible heights to be exceeded, as indicated on the right-hand side of the following Table.

Permissible Height according to Indicators applied at P.	*Permissible Height according to Daylight measurement at reference point R.*
30 ft. 0 in.	38 ft. 3 in. about
40 ft. 0 in.	47 ft. 0 in. „
50 ft. 0 in.	55 ft. 10 in. „
60 ft. 0 in.	64 ft. 8 in. „
70 ft. 0 in.	73 ft. 5 in. „
80 ft. 0 in.	82 ft. 3 in. „
90 ft. 0 in.	91 ft. 0 in. „
100 ft. 0 in.	100 ft. 0 in.

To compel the public to make a building 30 ft. high, as shown in the left-hand column, when it might be made over 38 ft. high, without any loss of daylight, would be unnecessary and uneconomic. It has, however, been found by daylight measurement that the Ministry did not even take the precaution of making the solid angle of visible sky seen above the hypothetical building 100 ft. high sufficiently large to provide a Daylight Factor of 1 per cent., which is recommended as desirable. In consequence, the permissible heights according to daylight measurement given in the Table will need some slight revision, if the length of the Indicator C1 should be altered from 119 ft. and the angle of obstruction reduced, in order to provide the standard of natural illumination recommended. If the Indicator is not to be altered, the figures of permissible height, on the basis of daylight, would not require adjustment.

Similar divergencies in permissible heights are bound to occur in the case of each of the other Indicators illustrated by Mr. Pound, owing to the divergence of the lines RX and PX. The Indicators to be applied to the centre lines of streets or plot boundaries are somewhat similar in effect to the Indicators to be applied to building frontages, but have been contracted so as to operate from the centre lines of streets or plot boundaries, and consequently have the same defects. It will be observed that the Indicators can only represent the permissible heights correctly at one point, namely, X where the intersection between RX and PX occurs, when the solid angle of visible sky at X is correct. That is bound to be so in the case of all the Indicators, since the same defective method of construction operates in each case, whether the Indicators be applied to the centre lines of streets or plot boundaries or to building frontages. As the distance from X increases, the daylight measurement becomes less accurate even when the solid angle of visible sky at X is correct.

The object of the Ministry was presumably to devise Indicators that would ensure the reception at reference point R of a uniform natural illumination of 1 per cent. Daylight Factor, from over the top of all structures of which the heights are marked on the fan-shaped diagrams. The enjoyment of this standard of daylight entailed the provision of uniform solid angles of visible sky, of the correct extent both vertically and horizontally, as seen from point R. These solid angles of

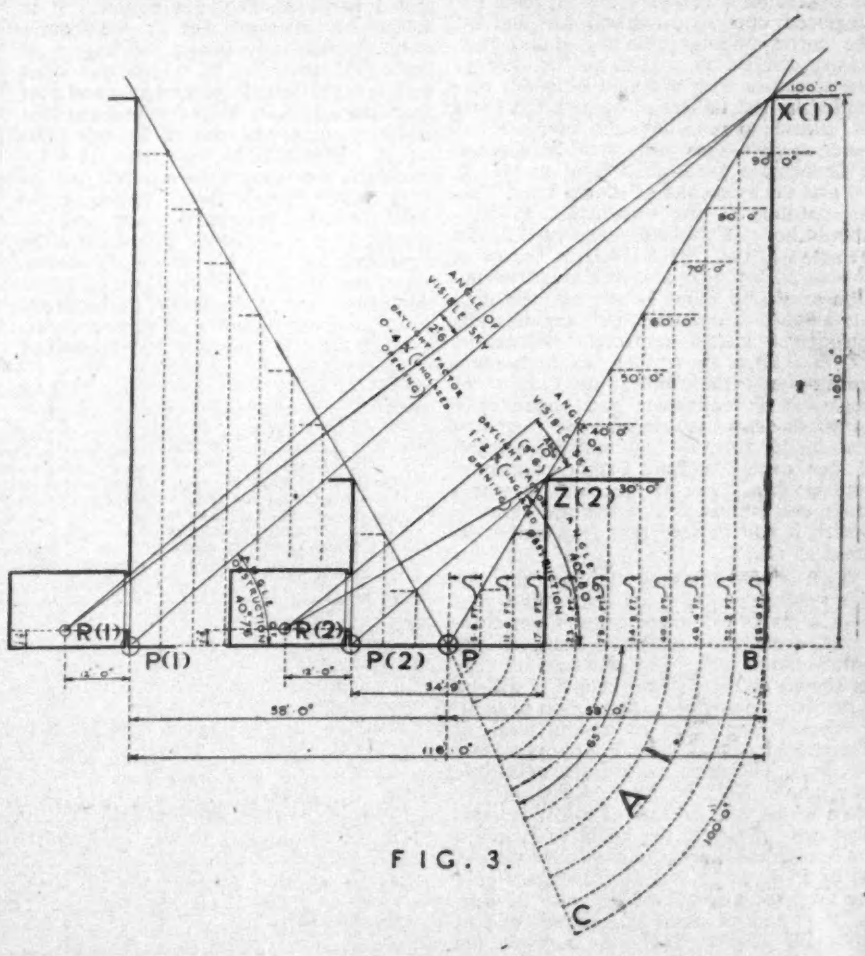


FIG. 3.

sky would penetrate the vertical plane of the window in such a way as to produce, when seen normally in perspective, a parallelogram of direct light from the sky. When seen obliquely in perspective, the horizontal boundaries would naturally radiate to a vanishing point and produce a wedge-shaped quadrilateral. Such a quadrilateral or parallelogram, as the case may be, used in this way, can probably best be described as a "daylight template," where it penetrates the vertical plane of a window.

Fig. 2 shows the parallelograms of light or "daylight templates" that would be seen normally from R, over the top of structures 100 ft. at X and over the top of buildings 30 ft. high at Z respectively, when Indicator C1 is used. The section on Fig. 1 shows that the angle of altitude of visible sky, seen above a structure 100 ft. high, is just about 3½ degrees. As Indicator C1 represents 45 degrees of azimuth at point P, and only slightly over 41 degrees at the reference point R, the daylight template does not extend quite across the window opening, as seen from R. This parallelogram above an obstruction 100 ft. high, in the case of Indicator C1, is assumed to produce a Daylight Factor or Sky Factor through a glazed aperture of 1 per cent. at the reference point R; but as a matter of fact it provides only a Direct Daylight Factor at R of about 0.6 per cent. through an unglazed aperture and about 0.57 per cent. Direct Daylight Factor through a glazed opening. Such a variation is remarkable, in view of the emphasis that has been consistently laid on the importance of 1 per cent. Daylight Factor being received at the point in question in all cases. The position and extent of this daylight template is indicated on the perspective chart in Fig. 2, on a Daylight Factor grille for unglazed openings, marked 2a, and on the corresponding grille for glazed windows, marked 2b. At Z on Fig. 1, over the structure with a height of 30 ft., permitted by the Indicator method, the angle of altitude of the daylight template has been increased to just over 10 degrees. This increase has been defined on Figs. 2, 2a and 2b by means of dotted lines. This means that, if the obstruction to light should not rise above the permitted height at point Z, the Direct Daylight Factor at R caused by such a continuous obstruction would be about 1.6 per cent. through an unglazed opening and slightly less through a glazed aperture. Differences of this kind show that, as at present constructed, the Indicators cannot be regarded as consistent and scientifically accurate or as capable of complying with the stated amenity requirement, namely, 1 per cent. Daylight Factor, no more and no less, even in the cases in which their use is possible. There are cases in which it will be seen that they cannot be used at all.

Let us now consider the Indicator A1 for application on street centre lines and plot boundaries, where there is not common ownership on both sides of the intervening space. The effect in this case is shown in Fig. 3, from which it will be seen that the angle of obstruction to light, projected from P(1) on ground level, at the street frontage, is again approximately 40 deg. The angle of altitude of visible sky, above X(1), is about 2½ deg. or less than in the case of Indicator C1. In this instance, however, the angle of azimuth or horizontal bearing is shown by the fan to be 65 deg. at P, but this represents only an angle of azimuth of just over 32 deg. at R(1) and an angle of azimuth of just over 26½ deg. at R(2). As a result, the Daylight Factor at R(1) would be about 0.4 per cent. as seen through an open unglazed aperture, and slightly less through a glazed aperture, as in Fig. 1, instead of being 1 per cent. as contemplated. An aberration of this kind suggests that the idea in its present form has not been fully considered. The effect at Reference point R(2) of light from the sky, passing above point Z(2), over an obstruction with a permitted height of 30 ft., is somewhat similar to that in the case of Indicator C1, as the angle of the daylight template is slightly over 9½ deg. and the Daylight Factor 1.2 per cent. through an unglazed aperture. These inconsistencies are clearly not limited to the particular Indicators selected for consideration.

MAJOR DEFECTS

Disturbing as these unnecessary inconsistencies may be, they are nevertheless only minor points. Amongst the major defects is the adoption of such large rectangular illumination units of a few standardised types, a hopeless procedure when the effect of a great variety of the sky areas found in all highly developed urban areas has to be determined. Another even more serious matter is the impossibility of assessing the cumulative effect of obstructions on a series of vertical planes simultaneously, by means of any Indicators that can operate on only one plane at a time. This defect is fatal, for no method that fails in this respect can be of practical value. In practice, it has very frequently been found in the past that the patch of visible sky seen normally above the obstructing building has not been by any means a parallelogram on the vertical plane. The Indicators can only control the use of daylight by means of relatively large parallelograms intended to represent 1 per cent. Daylight Factor. It is presumably assumed that, in the future, architects will only design buildings with horizontal skylines, of which the sides will never be seen in perspective, and that consequently they will conform to the arbitrary standards selected for the Indicators. Buildings in the form of lofty rectangular prisms, however, produce in perspective radial lines vanishing to points on the horizontal plane, and so present triangular forms, for which large rectangular units of illumination measurement are useless. Even if the skylines should be horizontal, parallel to the street, and free from domes and sloping roofs, it could not be said that the prescribed percentage of daylight, no more, no less, would be received at the reference points selected, if it should be found that the level of the heads of the windows of the building in course of investigation would have to be raised above the level of the heads of the standard windows, for which the Indicators have been designed, or placed below them, or if the width of the lights could not be in accordance with the selected window openings. Any alteration of this kind would vary the daylight intensity at the reference point, and so render the Indicator used unreliable as a means of daylight measurement in such a case. Moreover, it cannot be contended that windows, measuring 10 ft. by 10 ft., are the only ones suitable for use in non-residential buildings, and that other windows of different dimensions would not be equally efficient and desirable. The free architectural design of buildings for a great variety of purposes can scarcely be restricted so as to produce sky areas that will make the use of Indicators of this type possible in all conceivable cases. Moreover, we cannot expect that architects will always find it practicable to design buildings with windows of the dimensions arbitrarily selected.

The solution of the problem for the architect obviously lies in the adoption of some more elastic, flexible system that will give his imagination unlimited scope, free from any avoidable restrictions. Indicators of this kind can only be used, if at all, as approximate preliminary tests that are devoid of scientific accuracy. If the Indicator system should be adopted, without any alternative test, the minds of architects in the future are likely to be needlessly distracted by endeavouring to find sky areas that the standard daylight templates will fit, when all the time, as simple graphic methods might show, ample daylight would be available from a source or sources for which no template has been constructed. Sky areas are frequently of the most extraordinary shapes, and it would be absolutely impossible to cover the whole range, even if there were a hundred times more templates than there are letters in the alphabet. Multiplicity of templates would create endless confusion and exasperation, even if it would not make the system hopelessly unworkable. That kind of distraction is not conducive to the state of mind that has produced really great architecture in the past.

The following chart gives in tabulated

TABLE A

Type of indicator.	Daylight Template.			Daylight factor at reference point over 100 ft. obstruction (Unglazed opening).	Daylight Template.			Daylight factor at reference point over 30 ft. obstruction (Unglazed opening).
	Degrees of Altitude over 100 ft. obstruction as seen from reference point.	Degrees of Azimuth of indicator from point of application.	Degrees of equivalent angle of Azimuth from reference point.		Degrees of Altitude over 30 ft. obstruction as seen from reference point.	Degrees of Azimuth of indicator from point of application.	Degrees of equivalent angle of Azimuth from reference point.	
C1	39.83 36.58	45	41.22	0.6%	39.83 29.73	45	34.42	1.6%
C2	39.83 32.0	30	27.76	0.9%	39.83 26.4	30	23.63	1.3%
C3	39.83 27.6	20	18.7	1.0%	39.83 23.1	20	16.30	1.1%
C4	39.83 23.2	15	14.2	1.0%	39.83 19.6	15	12.66	1.0%

form particulars of the angular dimensions of the "daylight templates" and the Daylight Factors for the complete range of Class C Indicators for non-residential property, published in the paper of Mr. G. T. Pound. In order to avoid confusion, the particulars given have been limited to data relating to obstructing buildings, 100 ft. high and 30 ft. high. The class C Indicators are of special interest, as they are more easy to follow, owing to being applied at the frontage line and not at the centre of the street or plot boundary like the class A Indicators.

Although the method of applying the class A Indicators in the centre of the street or plot boundary makes the operation more obscure, the effect of using them is more or less similar to that obtained by using the C class Indicators, as Table B on this page shows. In this instance the A1 type of Indicator was selected for purposes of comparison.

In this case it will be seen that the Daylight Factor, in respect of light coming from over the top of the building 100 ft. high, is only 0.4 per cent. and that in respect of light from over the top of the structure 30 ft. high, is 1.2 per cent.

TABLE B

Type of Indicator.	Daylight template.			Daylight factor at R (1), over 100 ft. obstruction at X (1). (Unglazed opening.)	Daylight template.			Daylight factor at R (2) over 30 ft. obstruction at Z (2). (Unglazed opening.)
	Degrees of Altitude over 100 ft. obstruction at X (1) as seen from R (1).	Degrees of Azimuth of indicator from point of application, P on Fig. 3.	Degrees of equivalent angle of Azimuth from R (1).		Degrees of Altitude over 30 ft. obstruction at Z (2), as seen from R (2).	Degrees of Azimuth of indicator from point of application, P on Fig. 3.	Degrees of equivalent angle of Azimuth from R (2).	
A 1	39.83 37.23	65	32.2	0.4%	39.83 30.2	65	26.6	1.2%

From these charts it will be seen that this method of daylight measurement resolves itself into nothing more than the use of a few large rectangular units, incorporating hundreds of the fine mesh daylight factor units that have been in use for many years. Fig. 4 shows the tabulated data regarding the complete published range of class C Indicators, namely: C1, C2, C3, and C4, plotted on Perspective charts, showing projections on to the vertical plane from the dome of the sky, which is assumed hypothetically to be subdivided into solid angles, representing "square degrees" on the spherical surface. The fan-shaped Indicators beneath do not look at all like the rectangular "daylight templates" they represent, when seen normally; but the fact remains that the fans are merely a means of presenting an old method of daylight measurement in a new disguise, but without the small units necessary to ensure accuracy. Each daylight template represents a solid prism of diffuse solar light, radiating to the eye, at the reference point, from the dome of the sky. This

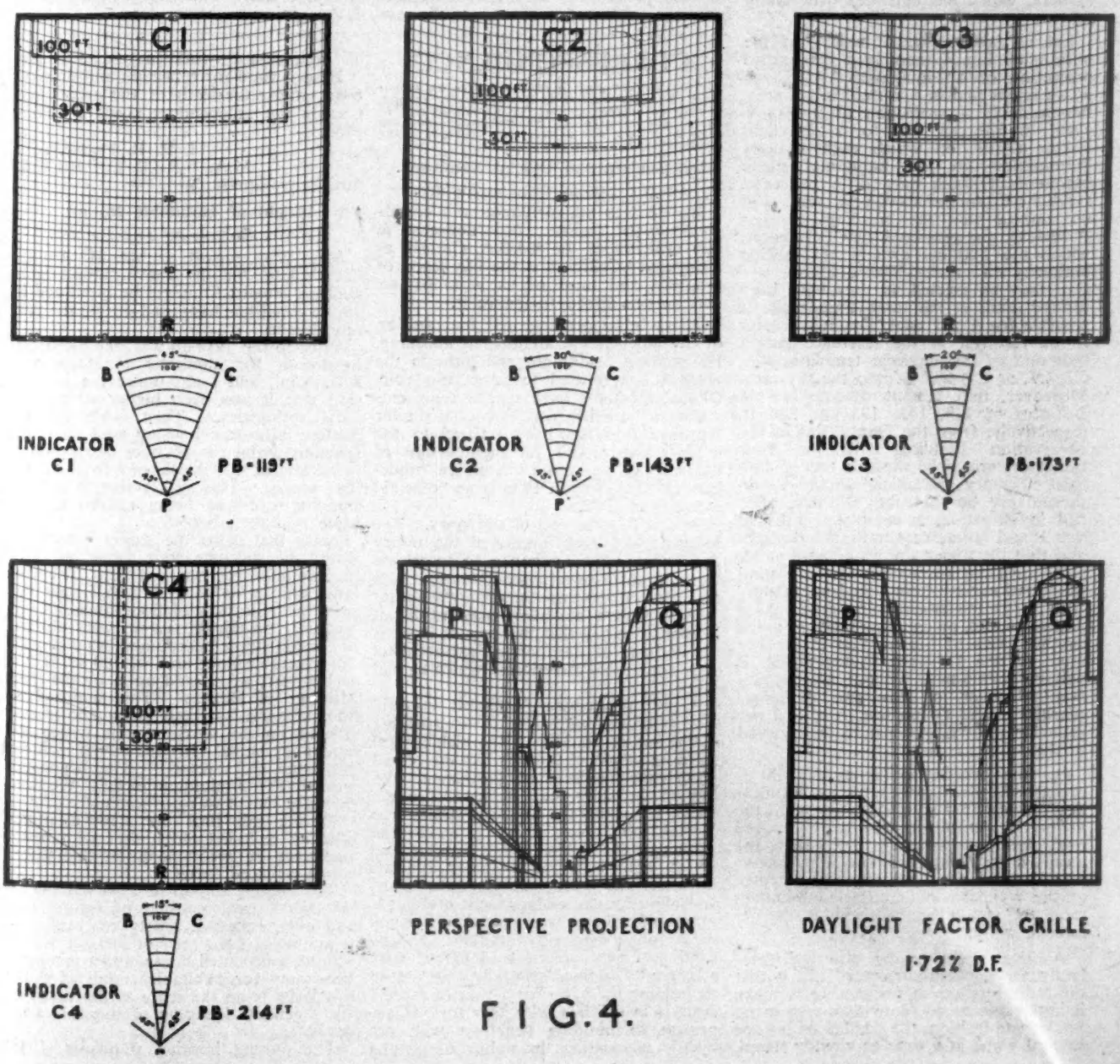


FIG. 4.

operation is exactly what the Perspective charts and Daylight Factor units have hitherto done more efficiently in another way. Radial prisms of light may obviously be of a variety of forms. They may be square, oblong, or hexagonal; in fact, of any pattern of equal units that will completely cover the entire dome of the sky. Years ago the possibility of developing this method of daylight measurement was fully explored, and it was found that, in order to deal with the problems that arise in connection with normal urban development, it was essential to keep the units of solid radiating prisms of light, representing natural illumination, comparatively small, preferably 1/400th part of 1 per cent. Daylight Factor. The decision that a daylight measuring unit should be 0.0025 per cent. Daylight Factor was reached after most careful investigation, which occupied a considerable amount of time. Now the Ministry of Town and Country Planning has presumably been advised that relatively large rectangular units, representing 1 per cent. Daylight Factor, are all that is required. With this view, I respectfully, but profoundly, differ. It is entirely contrary to my own experience in these matters, which has extended over many years.

Let us take a simple case. At the bottom of Fig. 4 there is a Perspective projection of an imaginary vista, such as we might find in a normal urban area. Alongside is a projection of the same vista, transferred on to a Daylight Factor Grille, on which each unit of illumination on the horizontal plane represents 1/400th part of 1 per cent. Daylight Factor, or 0.0025 per cent. Let us suppose that the buildings marked P and Q are proposed new structures, which the building owners are seeking authority to erect. The question is—Can they be erected as they have been plotted, and, at the same time, make it possible for 1 per cent. Daylight Factor to be received at the reference point? Not one of the daylight templates (C1, C2, C3, or C4) will fit into the sky area. Moreover, they cannot operate beyond distances of 119, 143, 173 and 214 ft. respectively, from the frontal line of the observation building. If the four Indicators are to be the sole test of daylight efficiency, the official answer would presumably be that the Ministry, after full investigation, is completely satisfied that P and Q intercept too much daylight and that the upper storeys of both structures must not be erected, as the natural illumination receivable would not comply with the Minister's requirements. As a matter of fact, by counting the very much smaller units of illumination in the sky area, on the Daylight Factor Grille, it will be found that, without any mutilation whatever of the two buildings marked P and Q, no less than 1.72 per cent. Daylight Factor would be received at the reference point.

In other words, so far as daylight is concerned, there would be no justification whatever for interfering with the architects' designs for the two proposed new buildings, as much more than the standard of 1 per cent. Daylight Factor, which the Ministry has officially accepted as the standard of natural illumination required, would be received at the reference point.

Another point to be observed, probably the most important of all, is that the Indicators are so designed as to make it impossible to do more than test, in an inadequate fashion, the conditions on one vertical plane at a time as already stated. The diagrams published indicate that the plane to be selected for this test is to be the vertical plane, passing through the frontage of a proposed new building, immediately opposite the hypothetical ground-floor room in which the investigation is assumed to take place. Apparently, it has been forgotten that the conditions on the other vertical planes beyond cannot be ignored. Sometimes high buildings in the background affect the enjoyment of daylight much more than lower buildings in the foreground. Even if the Indicator is long enough to reach the more distant buildings, it could only test the conditions there in one vertical plane and could not by any scientifically accurate means co-relate the combined effect in two, three, four and more vertical planes, which might together present a most irregular skyline. Not infrequently buildings on several different vertical planes contribute in producing the conditions that control the penetration of daylight to the reference point. I have not infrequently had to deal with cases in which lofty structures of considerable extent, as much as a quarter of a mile away, have interfered with the access of daylight into the rooms of buildings. Yet the longest Indicator for use in dealing with non-residential buildings only extends 214 ft. In the case of residential buildings, the maximum length of an Indicator is 567 ft.

The laxity of the procedure is emphasised by the permission to rotate the Indicators as much as 45 degs. to right and left of the normal frontage of the building, in which a test is being made. If we take the simple case of a perfectly horizontal and parallel skyline of indefinite length in both directions, immediately opposite to the frontage of the building selected for the test, it is obvious that the angle of the obstruction to daylight will decrease as the Indicator is moved away from the normal. As the angle of obstruction decreases, the penetration of daylight into a room naturally increases. Such methods of procedure suggest that the whole operation is little more than a rule of thumb, wholly inappropriate for use in the case of the development of valuable sites in urban areas. There is obviously no advantage in using methods of approximation of this type, when better methods of scientific precision are already in existence and available for use with a minimum amount of labour. In view of their nature and limitations, the Indicators can only be regarded as rough and ready tests, devoid of scientific accuracy. To rely upon them as a final test of efficiency would lead to serious injustice being done.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Independent and Official Architects.

To the Editor of *The Builder*.

Sir,—Let us all, including your correspondents, be realists. It is nonsense to dub criticism of the R.I.B.A. Council as disloyalty. Criticism is the life blood of progress, and none of us is so perfect that he can afford to ignore it.

There is no denying that the position of the independent architect is alarming. He needs a champion, and hitherto the R.I.B.A has refused to adopt this role. Official members have special representation on the R.I.B.A. Council, but similar representation has been refused to the independents. And yet membership of the R.I.B.A. has moved from an "independent" majority in 1939 to an "official" majority in 1948.

Nor is this the end of the story. The R.I.B.A. has lately approved the policy of allowing official members to do private work in their own time. There is here no space to develop the obvious abuses in which such a system may result; it is enough to say that this private work is the heritage of the independent architect and is one more direction in which he will suffer.

Every independent architect is only too familiar with the heart-breaking Fabianism of the Ministries which control building schemes; this has had the effect of driving hundreds of good men, who wanted to retain their independence but could not stand the financial strain, into official jobs. Now there is added the burden of the 1947 Town Planning Act, which empowers quite junior officials to alter and delay the layouts, plans and elevations of independent architects, many of whom were practising when these young men were cradled. As one local authority official said to me with a laugh: "Oh, there's nothing now to stop us holding up a job for a year or more." And it is officials with this sort of approach to building problems who are openly advocating the policy of putting *all* architectural work in official hands.

Here is food for reflection and dismay, even among the lords of the profession. Clearly the independent needs a champion.

J. H. R. Freeborn,
M.A., F.R.I.B.A., F.R.I.C.S.
30 Fitzroy-square, W.1.

Height of Habitable Rooms.

To the Editor of *The Builder*.

Sir,—With regard to Mr. H. Antony Clark's letter on the above subject (*The Builder*, August 6) may I be permitted to review what has happened during the past few decades?

Prior to the 1914-18 war, the minimum headroom for domestic buildings was 8 ft. 6 in., and I am under the impression that it was even higher with some local authorities. Then came the immediate after-war housing with its more spacious standards of floor areas and a reduction of the headroom to 8 ft. on that score. This was followed by the building bye-laws being altered to this same minimum height.

After that came the slump, which reduced the spacious floor areas, but kept the minimum headroom at 8 ft. The bye-laws still called for this low height despite the reduction of floor areas. Consequently, in the thirties we were obliged to design three-bedroomed houses with the miserable floor area of 760 sq. ft. for each house, as insisted upon by the then Minister of Health. This standard of floor areas is for both floors and is calculated on the measurements within the containing walls. In that way it includes partitions and breasts. The headroom was still at the minimum of 8 ft. We were thankful that it was not lessened.

During this time the slum clearance schemes included old houses with better standards of accommodation than those which replaced them!

The Dudley Report of 1944 was the result of a great pooling of information and experiences; it wisely recommended a minimum floor area of 900 sq. ft. for a three-bedroomed house, and a minimum headroom for habitable rooms of 8 ft.; this latter is on the score of the dread of the "general lowering of hygienic standards."

The present housing standards (1948)

for plans of the main building of the three-bedroomed house is about 950 sq. ft. of floor area, but when the out-buildings are considered, they then compare with the Addison houses of 1919 to 1922, with floor areas of about 1,050 to 1,100 sq. ft.

Already we, who fought so hard against the lowering of the housing standards during the thirties, can detect the tendency to swing back towards the miserable floor standards of that period. So if the headroom is lowered, we shall have rooms of small areas again with the 7 ft. or 7 ft. 6 in. headroom which Mr. Clark advocates.

No! Let us stand by the Dudley Report and take its 900 sq. ft. floor area and its 8-ft. headroom as *minimum* standards for our three-bedroomed houses.

By the way, the 8-ft. headroom, to my mind, could include any joist-supporting beams of a reasonable size, but not the joists of the floor above. I am told that some housing architects design the rooms with exposed joists, and count the 8-ft. headroom to the top of the joists. This is permissible by the building bye-laws. Later these exposed joists may be covered with ceiling boards and the headroom becomes 7 ft. 3 in. to 7 ft. 6 in. Personally, I hope that the tenants of the new houses will always be able to do what I did to my own children (and still hope to do to my grandchildren), namely, to swing them up towards the ceilings (with shrieks of laughter) without fear of bumping their heads against floor joists or low ceilings!

B. PRICE DAVIES.

Bangor.

THE INSTITUTE OF QUANTITY SURVEYORS

Annual General Meeting

The seventh annual general meeting of this Institute was held recently at Seymour Hall, London, W.1. In his address the President, Mr. F. Biscoe Taylor, F.I.Q.S., F.F.A.S., referred to the headquarters now established at 98, Gloucester-place, and the greatly enhanced amenities and services which the acquisition of this building enabled the Institute to offer its members. He hoped that in the near future it might be the general practice to give a prominence to the valuable and essential services of the quantity surveyor equal to that accorded the architect and the contractor.

During the meeting the following hon. officers were elected:—President: Harold Fulford, F.I.Q.S. Vice-presidents, J. L. Jackson, J. Gregg, H. V. Mace, W. Clark and B. Foster. The Honorary General Secretary and Treasurer is Mr. W. J. Masterman. A council of 14 was elected.

OBITUARY

David Alston Beveridge, F.R.I.B.A.

We regret to record the death of Mr. David Alston Beveridge, F.R.I.B.A., aged 72, at Aughton, near Liverpool. He was a native of Edinburgh and first took up his professional work in Liverpool, where he later set up in practice on his own account in Dale-street.

George MacRitchie, L.R.I.B.A.

IT is with regret that we announce the death of Mr. George MacRitchie, L.R.I.B.A., of Fort William. He was born at Blairgowrie and went to Fort William as assistant to the late Mr. James Falconer, architect. On the retirement of Mr. Falconer, he took over the practice and designed houses, shops and many other types of buildings.

LANDSCAPE ARCHITECTURE

International Exhibition and Conference

THE International Exhibition and Conference on Landscape Architecture, organised by the Institute of Landscape Architects, continued at the County Hall, London, on August 11 and 12. At the earlier sessions of the Conference, details of which were given in *The Builder*, August 13, papers were read on "The Evolution of the Landscape," "Economics and the Landscape," and "Housing and the Landscape."

Following is a summary of the proceedings of the subsequent sessions of the Conference :—

INDUSTRY IN THE LANDSCAPE

MR. RENE PECHERE, Secretary of L'Association Belge des Architectes de Jardin, speaking of the functions of the landscape architect in the industrial sphere, said: The rôle of the landscape architect has two aspects, the more general one of collaborating with the planner in the placing of industry, and the more detailed one of collaborating with the architect in the design of individual works.

Recent laws ensure that all extensions and new works shall be controlled by planning. Zoning is therefore automatically included in any development plan. and it is at this stage that there is a real need for the collaboration of a landscape architect. His particular responsibilities would be: (1) To study and, as far as possible, conserve the vegetation; (2) to respect the forests and woodlands where encroachment would destroy the balance of their economy; (3) to define the boundaries of the factory within the landscape; (4) to decide on trees which must be preserved at all costs; (5) to advise on planting along ways of access both by land and water; (6) to draw the attention of the authorities to dangers of pollution, atmospheric and water-borne, and their effect on vegetation; (7) to consider the lines of roads, so that they may be in harmony with the landscape.

His rôle must also include convincing those concerned that the works must be well sited within the landscape and not merely decorated.

There are many directions in which useful advice may be given, and a start may be made with problems less extensive than that of factories. Petrol pumps are the start of industry in landscape and these can be well or badly sited along the roads.

The Individual Factory.

With regard to the individual factory, the landscape architect deals with the director and manager of the factory and the architect.

I believe that a new viewpoint, helpful to our profession, is emerging. The management is realising that fine surroundings to the factory are less costly and more effective than printed advertisements, as well as being a pleasure to themselves and their employees. The efforts of the landscape architect can be directed in two directions—the laying out of grounds within the works, and the designing of its surroundings. In connection with the first: (a) the first consideration must be traffic needs and circulation. If is an advantage to separate passenger from goods traffic; (b) trees, flowers and lawns must be used to create harmony between the different buildings. Hedges can be used to separate secluded areas from traffic ways; (c) restful areas must be provided by the creation of simple gardens near the offices and canteens, and lawns on which the workers can rest; (d) the office approaches must be made clear to callers, and on their way they should be given an impression of the extent and importance of the works; (e) provision must be made for future extensions.

So far as the surroundings are concerned, (a) these must be treated on a large scale, with plantations of trees, singly and in groups; (b) there must be a screen between the factory and the surrounding country. The works therefore should acquire more land than is needed for the actual buildings; and (c) car-parks planted with quincunx shade the vehicles and clothe the parking space. The parking places should be opposite the entrances. Their design may be on the lines of the traditional forecourts and avenues of private gardens.

The remarks of MR. G. A. JELLICOE, F.R.I.B.A., M.T.P.I., President of the Institute of Landscape Architects, on the same subject, may be summarised as follows:—The chief changes in the modern English landscape arise first from the idea of dispersal of industry on social grounds from the built-up areas, and secondly the establishment of basic industries adjoining their source of supply of raw materials, each on a scale suitable to a rising standard of consumer demand in an over-populated island. The former, an example of which is the Wedgwood factory at Stoke-on-Trent, presents no difficulties. The latter, which includes the great new cement works, hydro-electrict schemes and such problems as the proposed London reservoir in Hampshire, calls for great skill on the part of the landscape architect. By a curious dispensation of nature, hills are not only the main source of supply of valuable minerals and of water power, but usually comprise the areas most beloved by man for their unchanging and beautiful scenery. In this case it is essential for the new landscape to be *positive* rather than negative; for instance, tree planting for concealment is negative, but tree planting definitely to relate new buildings to an existing field pattern is positive.

I am not whole-heartedly in favour of the huge industrial estate that contains all the amenities. I favour reasonable dispersals of industry within a town and the concentration of amenities such as playing fields, community centres, in the domestic areas rather than in the industrial area. Play is a relaxation and should be related to the home and family life. As regards the individual factory, it is surprising how a small element of landscape integrated in the design can change it from a disagreeable to an agreeable environment for work. I am of the opinion that the idea of the creation of good working conditions in factory life has come to stay, and such an objective is a genuine source of landscape inspiration.

Industry can no longer work out an area, leave it derelict, and pass on to another site. Not only that, the country cannot afford to leave these derelict areas in their present state. Psychologically they are depressing, and do actually depress land values in their neighbourhood; and materialistically every area in the country must be put to productive use. There is no such thing as absolute waste in nature; it is a condition of man only.

The blighted areas are relics of the industrial age and these sores can only be tackled by determined positive planning.

Great strides have been made in eliminating pollution at its source of supply, such as smoke prevention, dust-extracting plants and the like. However, I feel that the ultimate problem of pollution will solve itself when the truth of the statement "there is no such thing as absolute waste in nature" is not merely appreciated but put to the test. The grand cycle of nature where one substance depends upon another for its existence and where nothing is static, applies to mineral waste just as much as to vegetable waste.

LEISURE IN THE LANDSCAPE

Speaking on the Danish attitude towards "Leisure in the Landscape," MR. TROELS ERSTAD, President of the Dansk Havearkitektforening, said: Nature is being murdered every day—in the sacred name of Nature. Many people dislike Nature—they want it mixed with something else; food, sex, beer and dancing. And they have sore feet. They want Nature paved with short walks, and they want buses for transport to beautiful places with a view; and a nice girl to serve coffee and beer, buns and whisky exactly where the view is. Such are the aboriginal, still-dominating desires of the People. When taking a trip out in Nature they don't dress for Nature but for company. Nice and unsophisticated are the Danes, not highbrows. But the girls are too often high-heeled.

The problem of Leisure in Nature is to protect Nature. And Nature has three enemies—three armies representing the three generations. The very young, between eight and 18, is a happy and innocuous foe. It roams through the country, breaks down fences, it will burn some bit of fir plantation and now and then steal signboards just to make camp fires on the good and dry and painted wood; eat apples, tramp down the rye; ask for permission to sleep in barns, smoke cigarettes in the hay and burn down the barn. That's very bad, but not so bad because the barn is insured. And the young are a modest lot, they ask for nothing. They walk and they tramp, and it's such fun if there is no road and no path, only grass and briar. Then we have the generation between 18 and 40. The motoring army. They are very bad. They expect to find a first-class hotel, gin and tonic, fried chicken and a teak dancing floor, and first-class tarred roads to it. A Nature devouring lot. There is business and money to make where they come. They want roads down to the beach—Denmark has uncounted miles of sandy beaches—to motor on the sand. Restaurants spring up like mushrooms where the motoring army comes. And Nature expires. Then we have the settled generation, from 40 to the crematorium; the most dangerous of the three armies. They want a cottage in Nature. A nice and big cottage, with room for the children and the grandchildren.

It's not easy to protect Nature against this spending, money-earning, middle-aged army in a democratic country where private property is the basis of social life and enterprise. There is a clause in the Nature Protecting Law (1935) prohibiting the erection of houses within a certain distance from the beach and state-owned woods and forests, but that clause is not valid where the area is partly built-up, and the distances stipulated—500 and 300 metres—is no real protection.

The Ministry for Agriculture can prohibit the sale of small lots for building out of arable land and the sale of farms for any purpose not strictly farming. Just now we have a building-stop for holiday cottages, but that's because Denmark is short of materials. A much better idea, suggested by a Danish writer, is to make use of the Road Commission. Where roads are not fit for motoring, there is no fear of attacks on Nature. Why not spend the road-money—paid by the motoring people—on roads of commercial value? It's a "hole in the head," as we say in Denmark, to build modern roads without any real value for the commonwealth out in the pure unspoiled Nature just to make it easy for land-owners to sell lots and the hotel people to build ugly restaurants and make money. You can protect Nature by making it difficult to visit Nature if the population is not willing to walk, tramp, or cycle for hours and through deep ruts in sand. And the population is *not* willing. It's human nature never to walk for more than 20 minutes to get coffee and buns and beer.

The real idea is to let the population loose on certain strictly defined areas and bar access to others simply by not spending money on roads and letting the very young roam where they want to. They love Nature in the healthy primitive way. They prefer no roads or roads marked "Private."

You may ask why I have not mentioned the population in the big cities. There is only one big city, Copenhagen, and its environs, the eastern and northern part of Seeland, is too civilised to be protected. The engineers working for the City of Copenhagen have given those town dwellers miles of green paths winding through the rudiments of Nature near Copenhagen. Very nice paths; two parallel paths, one for walkers and one for bicycles. Marked with green signboards. Only one of the paths is in use—that for bicycles. The bicycles make the surface hard and good to walk on. Grass is growing in the loose gravel on the other. That's very Danish. And the very paths are so elegant and winding and parallel and romantic that sometimes they spoil Nature.

The population of Copenhagen love Nature, and they have their own Nature in the town itself—barred by big blocks of apartment buildings, small gardens on hired sites, each with a very small gaily-painted shed. Here the masses of Copenhagen till the soil and grow cabbages and cucumbers and radishes and flowers and are happy in shirt sleeves; and mother is brewing coffee in the shed and the family and its friends is the world all day on Sunday. That's *their* Leisure in Nature.

A Danish writer has written beautifully about productive idleness. About the man who is recreated through work free of money-earning thoughts; the man who experiences the pure joy of using his muscles and his brain. The man in the Danish "Colonist's Garden" is a free man in a free country. He knows the value of productive idleness—Leisure in Nature. His life all Sunday is green plants, and coffee, and a bottle of beer, and mother and the children—on 70 square yards of hired ground.

MR. CLOUGH WILLIAMS-ELLIS, F.R.I.B.A., M.T.P.I., Vice-President, Institute of Landscape Architects, said: You might truly say that ever since the first world war leisure has been expanded and landscape contracted at an ever accelerated rate until, in this crowded little island of ours, at all events, we have now reached a point at which the state must intervene decisively on behalf of landscape lest its earlier and humane intervention on behalf of leisure becomes a mockery simply for lack of sufficient acceptable space and facilities, where time can be agreeably and beneficially expended. In essence, then, it is a problem in space and time posed by our newly intensified and wider conceptions of justice, efficiency and the true aims of civilised existence, which should include, among may other things, recreational fun.

Now there was a time, I will confess, when I had myself an instinctive, illogical and quite indefensible belief that a gracious landscape was a sufficient end in itself, self-justified regardless of its social implications, of the conditions that had produced or maintained it, or even of its own repercussions on humanity.

That view, treating mankind as a mere incidental foreground to inanimate beauty, as mere figures in the landscape, cannot, I must own, be intellectually defended. I now sensibly concede that no reasonable person is likely to concern himself about visual beauty, its creation or preservation, save with reference to its human values. Which goes for governments as well as individuals—as it should and must. Not without difficulty I, too, have at last persuaded myself into this more reasonable, if utilitarian belief—that the mere existence of beauty is of no importance, it is only its enjoyment by man that is important.

It follows, inescapably it seems to me, that admitting this much one must go yet further and allow that what really matters is that the appreciation and enjoyment of natural beauty shall be as widely diffused and shared as possible—for the greatest happiness of the greatest number.

We must try to popularise and democratise the enjoyment of such beauty—by making lovely places generally accessible without thereby impairing their distinctive characters.

The fact is that, given new leisure and new transport facilities, the new generation with its new outlook is going to swarm over the landscape *anyhow*. It is our job, and now the Government's, to see to it that the landscape not merely survives its new popularity and accessibility, but that it shall also be made to exert its civilising influence on its teeming new public to the greatest possible effect—to the ultimate salvation of both the solitudes and the multitudes.

Economics, physical barriers, a too narrow "paper" education and primitive social conventions have kept the two apart and unacquainted altogether too long, and the overdue introduction of millions of townsfolk to their hitherto unrealised heritage of natural beauty will be both difficult and dangerous, with all sorts of ignorances and gaucheries to be patiently replaced by understanding as the new patrons are educated in appropriate country manners.

These initial difficulties must be faced and overcome. The good citizen's most pressing job at this moment is to see to it that our Government's undoubted good intentions are actually honoured and fully realised.

EDUCATION OF THE LANDSCAPE ARCHITECT

The broad principles to be borne in mind in educating the landscape architect were outlined by MR. LEON ZACH, of the American Society of Landscape Architects. Following some introductory remarks, he said: The student in landscape architecture is soon made conscious of the fact that the surface of the earth is continuous and that land planning which fails to recognise

this fact can never be wholly successful. He sees how all too easy it is for the architect or the engineer to look upon and treat land primarily as a site for a structure or a group of structures, with little or no regard for what happens to adjacent land as a result of their work. By contrast he is taught to look at planning "in a big way," and never to overlook the potential far-reaching effect of his work on his small piece of the earth's surface, and of the mutual relationship between it and the larger area of which it is a part.

In order that he may spread this gospel—even before he starts his professional activities, if conditions for it are ideal—he is given collaborative problems with the other professions. Many schools in the United States call for at least one such problem a year; some schools, for several a year. At some of the schools instruction is now leaning more and more towards treating landscape architecture as only one phase of education in a school embracing all design and recognising the mutual contributions of the world's developing thoughts whether labelled architecture, landscape architecture, engineering, city planning, fine arts, or government. In the last decade, at least three American schools of landscape architecture of the group which are recognised as satisfying the minimum educational requirements of the American Society of Landscape Architects, have become departments or divisions of such a school of design and perform their work in close collaboration with the other divisions—usually architecture and city planning. The early years in such a school find identical, or at least partly identical, instruction given to all three departments, each of the three thus gaining a modicum of knowledge of the techniques of the other two.

The student of landscape architecture learns to think of buildings not only as beautiful in themselves and in their groupings, and as efficient housing for practical requirements, but also as elements of a total landscape composition in which ground forms and vegetation are also a part, sometimes a dominant part. He assigns volumes of shelter and of vegetation to their appropriate location in spatial relation to one another and to the land on which they are to be placed.

In this arrangement of the objects upon the land, the student comes to see that the landscape architect must consider circulation between areas, between groups of structures, and between buildings of a group, giving due thought not only to economy of handling supplies and services and to efficient movement of people, but also to the effect upon the landscape of the roads and walks that form the circulation system. He learns to consider the location of buildings with a mind not only to the economy of balanced cuts and fills, but also to the psychological effects resulting from artificially produced ground forms. He perceives that the nature of the topography and the existence of important masses of vegetation are often strong influences on the kind of design he may produce; that if the topography has real character, it is all important to allow this character or form to inspire the style of development.

Secondly, his special background includes study and analysis of the historical styles of landscape design. From study of the examples of these styles of the past the student acquires a treasury of inspiration.

Thirdly, he studies landscape composition as applied to objects on the land; shape, scale, texture, colour, light and shade, atmosphere and atmospheric perspective.

Fourthly, he is given an appreciation and the beginnings of the knowledge of natural forms, which is a prerequisite to good design.

The last area of special education for the landscape architect is in plant materials—their characteristics as applied to landscape design, their form, texture, colour, and character, and the many and various uses to which he may put them.

The study of plant forms and of the care and maintenance of vegetation is followed by the study of planting design and of the many ways in which various forms, textures, and colour of foliage, flower, bark, and fruit may be employed.

The student is now ready to learn the details of the many various types of landscape design with which he will be faced in his professional career. These fall into a relatively few general classifications: Private properties, including the garden, the estate, the home; the land subdivision; public and semi-public areas, including parks, playgrounds, parkways, cemeteries; building groups, including educational, municipal, and institutional groups. Within these general types of design, the details of individual problems vary from year to year both as to the topography of the site and as to the special requirements of the "client," be he the private individual, the Board of Trustees of an institution, or the real estate promoter.

These design problems are normally accompanied by construction problems. When feasible, the student makes his preliminary design and detailed studies, then the plans for the execution of the project as completely as possible and following the current professional office procedure. On this basis, he is taught to follow his design with master construction plans, grading, piping and other utilities, estimates of costs, planting design, specifications, and a written report to his imaginary client, setting forth the reasons for his design.

It is rarely possible to carry more than a few problems to this degree of completion, and the instructor feels that he has done well if he succeeds in placing before the students the various types of design they may meet in later years, showing them how these may be approached and where to look for the data upon which to base their solutions; in other words, not in giving the absolute answer to any one problem, but rather how to think and how to approach any problem.

A Complete Task.

MR. H. F. CLARK, A.I.L.A., gave details of the present facilities for the education of landscape architects in this country, and continued: The training of good designers seems to be an extremely difficult and complex task. It is certainly not possible to guarantee success with any syllabus, however ingeniously compiled. And it is perhaps true to say that at all the great periods of the past, the masters of those periods were not the products of academies of gardening.

From this it might be assumed that there is not much to be gained in founding schools of Landscape Architecture. There are, however, great advantages to be obtained in doing so and in incorporating in our methods of teaching the advantages of the old master-pupil relationship.

The wide field which the profession now covers makes it necessary for us to train men and women able to deal with spaces greater than Versailles and to satisfy not the inconstant whims of one Louis but a hydra-headed Louis, the public corporation. The papers read at this conference have shown how complex our problems are and how much there is to be done. It has also shown how closely related Landscape Architecture is to Architecture and Engineering on the one hand and on the other to the sciences which have to do with the life and growth of plants. It means that students at our schools must be trained at an early stage to collaborate with the members of these allied professions.

The aim of education for the professions includes not only the passive reception of ideas of others but also a training in the powers of initiative. The student should be stimulated into creative activity. The great stimulus to the creative faculty is a discursive knowledge of all the arts. The gap between what is known as a liberal education and a technical one is not, or should not be, very large. There can be no good technical training which does not impart both technique and intellectual vision, or which is not also liberal. Critical standards in the visual art of Landscape are best acquired by acquiring an eclectic taste in architecture, sculpture and painting. And critical standards are vital not only to the individual student but also to the profession as a whole.

HOUSING REQUIREMENTS

STANDARDS FOR STRENGTH AND STIFFNESS

IN ORDER to meet the present demand for houses, many new and unconventional forms of construction have been introduced. These have produced problems of strength which had not been considered before. In "National Building Studies. Special Report No. 1—Structural Requirements for Houses," published recently for the D.S.I.R. by H.M. Stationery Office, price 9d., by post 10d., a description is given of the acceptance standards finally adopted for strength (static and impact) and stiffness.

The strength of houses has received little attention in the past. In the traditional brick or stone house, the thicknesses of the walls were controlled by the degree of weather resistance or thermal insulation required, and these thicknesses were ample for the loads supported by the walls. With present-day knowledge of the insulation and weather protection given by building materials, and with the development of structural frameworks, it is possible to design houses which satisfy all functional requirements but which have a strength less than that of the traditional house.

Many of the new types of houses were submitted to the Interdepartmental Committee on House Construction (usually known as the Burt Committee) for consideration. In order to help the Committee in its judgment of these types, the Building Research Station, D.S.I.R., made many loading tests on the full-scale structures. As far as possible the tests were standardised in order to simplify their application and to obtain a common measure of the properties of various types of structure.

The report gives figures for all loadings such as floor and roof loadings, snow and wind loadings, etc., and contains photographs which indicate the tests undertaken.

TOWN AND COUNTRY PLANNING ACT, 1947

By NORMAN P. GREIG, B.A., Barrister-at-Law, F.R.San.I., F.I.Arb., etc.

7. PAYMENTS OUT OF CENTRAL FUNDS IN RESPECT OF DEPRECIATION OF LAND VALUES

AS has been made clear, one of the main purposes of the Act is to take over development rights in land from the owners on payment to them of a sum of £300,000,000. This sum is to cover claims made from owners of land in England, Wales and Scotland. Section 58 provides for a scheme to be made by the Treasury in regard to the apportionment of the above sum as between England and Wales on the one hand, and Scotland on the other, at such time as the Treasury is "sufficiently informed as to the development values" of the land (Sub-Section (2)). This will be when the bulk of the claims have been received. The Section further provides that under the scheme the amount of the payments can be ascertained with regard to the development values *or to other factors* affecting such interests, or partly in the one way and partly in the other. The making of claims will be considered under Sections 60 and 63; and Sections 61 and 62 deal with the manner in which development values are to be ascertained. Provision is made under the section for payments to mortgagees of war-damaged land and the apportionment of payments as between lessors and tenants. Payments, as previously stated, will be by negotiable Government securities.

WAR-DAMAGED LAND—ADDITIONAL PAYMENTS

Under Section 59, the Treasury can make a further scheme which is to cover loss of development value in the case of war-damaged land subject to a value payment, where the development value of the site has already been considered in the value payment which has been accordingly reduced. In other words, the value payment may have been calculated on the basis of the owner retaining a site with development value, which will now be lost. Hence special payments will be made in these cases, not out of the above Fund, but payable in *cash*.

ESTABLISHMENT OF CLAIMS FOR PAYMENTS OUT OF THE FUND

Section 60 is intended to cover the *making* of claims to the Central Land Board. Regulations are to be made under the Section regulating the above, and for the ascertainment of development values and other matters concerning the preparation of the Schemes referred to in Sections 58 and 59. Section 60 further provides for claims being made by freeholders or leaseholders, and for the settlement of disputes in regard to the determination of development values. In this connection the Tribunal for settlement of such disputes is arbitration under Section 1 of the Acquisition of Land (Assessment of Compensation) Act, 1919. Claims for payments can be made in respect of such land as the claimant thinks fit, and different claims can be made in regard to the interest of the same person in different parcels of land. The Central Land Board can, however, direct that any two or more claims in the latter case must be dealt with together and treated as one claim on the whole of the land included in the claims.

ASCERTAINMENT OF DEVELOPMENT VALUES OF LAND

Section 61 lays down that the depreciation in value of any land is its development value, in regard to which claims are to be made as explained above. The development value will be the difference between the *unrestricted* value of the interest (the market value if the Act had not been passed) and the *restricted* value of the interest (existing use value). Section 61 provides that the value of land is deemed to be depreciated under the Act where the restricted value of the land is less than its unrestricted value, in accordance with prices ruling immediately before January 7, 1947, and with regard to this Section and the following. When calculating *restricted* values, these points (*inter alia*) should be noted. The assumption is that planning permission will be granted for developments mentioned in the Third Schedule (as to which see Article 6), and that where land is used on the appointed day for displaying advertisements, no account must be taken of any powers conferred by regulations under Section 31 requiring the discontinuance of that use. And in calculating unrestricted value (apart from the general principle mentioned above), where any permission to develop land has been granted under an interim development order which has been revoked or modified before the appointed day under Section 4 of the Town and Country Planning (Interim Development) Act, 1943, this fact must be disregarded. Also, where land is held on the appointed day with other land, a deduction of amounts equal to the compensation payable for severance and for injurious affection, must be made.

In regard to land which was requisitioned on the appointed day, special provisions are given later (Section 89), and where notice to treat has been served before the appointed day, Section 91 applies.

Section 62 lays down further provisions in regard to the computing of restricted and unrestricted values which, in the main, is governed by Section 2 of the Acquisition of Land (Assessment of Compensation) Act, 1919.

EXCLUSION OF SMALL CLAIMS

Section 63 provides, *inter alia*, that no claim should be made for loss of development value unless the development value of the interest exceeds £20 per acre *and* one-tenth of the restricted value of such interest.

VESTING AND ASSIGNMENT OF RIGHTS TO PAYMENTS

By Section 64, the *owner* of the interest in the land affected, on the appointed day, is, generally, the person entitled to receive the payment, i.e., the person with the legal estate in the interest. But this right to receive payment, or part of a payment, can be transferred by assignment or by operation of law (that is, to the personal representatives on death, or the trustee in case of bankruptcy) as personal property. But notice of the transfer must be given to the Central Land Board under any regulations made for the purpose.

HOW THE PAYMENTS ARE TO BE MADE

The payments, as previously explained, under the scheme provided for by Section 58 are to be satisfied by an issue of Government stock, and those under Section 59 in cash, by the Central Land Board, and the stock is to be issued at a date not later than five years from the appointed day. It is clear, therefore, that satisfaction of claims may be delayed for that full period of time. The amount of stock to be issued in regard to any particular payment is the amount which, *in the opinion of the Treasury*, is of equal value on the date of issue to the payment to be made. Regard is to be had to the market values of other Government securities at that date.

GENERAL PROVISIONS AS TO STOCK

By Section 66, any stock issued is to bear such interest, and be subject to such conditions as to repayment, redemption and other matters (including provision for a sinking fund), as the Treasury may determine. A further point, and one of some importance to the owner of land affected, is that the stock is negotiable.

PAYMENTS IN CASH

For the payment by the Central Land Board of any payments in cash allowable by the Act (e.g., under Section 59, above), the Treasury is empowered to raise money in any manner permissible under the National Loans Act, 1939.

(*To be continued*)

∴ The next article will deal with the all-important matter of Development Charges.—ED.

INDUSTRY ON HOUSING ESTATES

PRIORITY FOR DEVELOPMENT AREAS

AN indication that priority would be given by the Government to factories in development areas rather than on local authority out-county housing estates was given by Mr. Belcher, Parliamentary Secretary to the Board of Trade, when he recently received a deputation from the London County Council.

The deputation, which was appointed with a view to expediting the erection of industrial buildings on the Council's out-county housing estates, explained to Mr. Belcher the Council's proposals for avoiding dormitory development by attracting industry to its out-county estates and for the decentralisation of industry and population from London.

Mr. Belcher replied that it was the Government's decision on restriction of capital expenditure that was holding up approvals, and that he thought no advantage would be gained if the Board of Trade gave approval to the location of factories which could not be erected at the present time. He agreed to preliminary information as to the location of industry being given to the Council, but stressed that development areas must have priority.

It was agreed (1) that the Council should furnish the Board with a list of firms which it considered should be removed from reconstruction areas and that, after examination of the list by the Board's officers, arrangements should be made for a conference with a view to reaching agreement; (2) that the Board should take part in regular meetings between the Council and the Ministry of Town and Country Planning on the decentralisation of industry; and (3) that, although approval for new factories could only be given to firms of exceptional importance who were tied to the London area and who would, if granted a factory, be able to make an early and substantial contribution to exports, the Parliamentary Secretary would see whether the machinery of the Board of Trade could be made to work more smoothly so that the Council would be given decisions on proposals put forward without undue delay.

GOVERNMENT TRAINING CENTRES

CRITICISM IN PUBLIC ACCOUNTS REPORT

CRITICISM of the Ministry of Labour and National Service for the inadequacy of steps taken to reduce to present needs the expenditure on training in Government centres, particularly those centres used for training for the building industry, is contained in the Second Report from the Committee of Public Accounts, Session 1947-48 (Stationery Office, 6d. net). In its report, the Committee states:

GOVERNMENT TRAINING CENTRES.

"Considerable expenditure has been incurred by the Ministry of Labour and National Service on training at Government Centres and by the Ministry of Works on providing buildings for the scheme. The expenditure by the two Departments on training for the building industry in the period of two years ended on March 31, 1948, amounted to £15,400,000, including sums estimated at £5,900,000 for maintenance allowances to persons in training. This represents about 85 to 90 per cent. of the total expenditure on training in this period. . . .

"The Ministry thought that they might have in training at one and the same time some 60,000 building workers and from 5,000 to 10,000 in other trades. With these numbers in view 30 new centres were planned, each to provide about 600 training places, and to cost between £150,000 and £200,000 each or about £300 per place. In addition 11 existing centres were substantially extended and adapted, and emergency centres were opened. In all, 78 centres were in operation in April, 1947. The construction and adaptation of training centres occupied the time of a labour force equivalent to the continuous employment of 3,750 men for two years from March, 1945, to March, 1947.

"Some 24,900 persons completed a building training course at a Government Centre in 1946-47, and some 26,200 in 1947-48. The maximum number in training at one time was about 26,000 in February, 1947; of these, 23,400 were being trained for the building industry. It then became apparent that the war-time assumptions on which the original programme was based were not going to materialise. Capital investment cuts became necessary within the balance of the national economy as a whole which involved a projected decline in the total building labour force. Moreover, the anticipated post-war unemployment amongst unskilled and semi-skilled labour did not occur. During the year 1947 the number in training declined rapidly and it stood at about 4,300 in April, 1948. The reduction in staffs did not proceed at the same pace, as will be seen from the following figures:

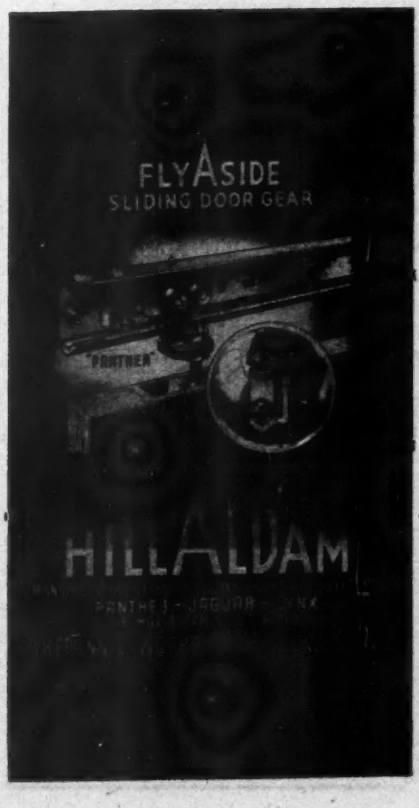
Date.	*Number of persons in training in proportion to each member of* (a) *Total Staff.*		(b) *Instructional Staff.*
July 1, 1945 ...	2.7	.....	6.1
Jan. 1, 1947 ...	4.1	.....	9.3
April 1, 1948 ...	1.7	.....	5.9

"The Ministry consider that normally the proportion of instructional staff to persons under training should be about one to ten, but they point out that the proportion is always high during a period of change, whether of expansion or contraction, and that classes which are being built up or allowed to run down are expensive in staff. The Treasury stated that they were consulted at the outset about the number of staff and instructors required but they were not in touch with the situation throughout.

"The 1948-49 Estimates indicate £6,449,000 as the probable total capital expenditure by the Ministry of Works (excluding the cost of furniture, tools and equipment). The Ministry of Labour and National Service explained that they considered it desirable to provide permanent structures and that cheaper forms of building would have been more wasteful in the long run. They thought that after the centres had served the purposes of training for the building industry a number of them would be required permanently for training in other trades and that those not required would be available for industry as factories. In June, 1948, 20 of the 30 new centres were still being used for training, either alone or in conjunction with some other activity, mainly the provision of sheltered employment for severely disabled people.

"Your Committee note that the training scheme for the building industry was started in 1945, on the basis of plans prepared in 1943, and they appreciate the reasons for the provision of training facilities on a large scale at the end of the war. When, however, it was found that substantial unemployment did not follow demobilisation, and it became apparent that owing to shortages of material and cuts in capital investment the building programme would have to be seriously curtailed, the Ministry of Labour do not appear to have cut down their training programme as quickly as might have been expected. Construction of centres continued, thus employing labour and material which could have been used for more urgently needed building work. . . .

"They note that as recently as April, 1948, the centres were employing on an average about six staff for only ten persons under training. They feel doubtful whether adequate steps have yet been taken to reduce the expenditure on training to present needs and they recommend that the Ministry, in conjunction with the Treasury, should review the matter in order to ensure that no unnecessary expenditure of either money or manpower is incurred on training."



LICENCE WORK AT BOURNEMOUTH HOTEL

ARCHITECT ACQUITTED

BUILDING in excess of licences by £5,025 was alleged by the prosecution in a case arising out of work at the Savoy Hotel, West Cliff, Bournemouth, heard at Bournemouth Quarter Sessions recently. Defendants were Gordon Willet Jackson, architect, of Jackson and Greenen, Hinton-road, Bournemouth; Henry John Harding, assistant builder's manager, of George and Harding, builders, Lansdowne-road, Bournemouth; Aish and Company, electrical engineers, Yelverton-road, Bournemouth; Young, Austen and Young, heating engineers, Alma-road, Bournemouth. They were all found not guilty.

Mr. J. D. Casswell, K.C., prosecuting, said the directors of the Savoy Hotel planned work on the hotel in 1946, when it was released after six years' requisitioning. The Ministry of Works, when applied to, said there must be no repapering unless paper was already in the hotel company's possession. He alleged paper costing £435 was ordered after a licence was granted. The original estimate for the work was £15,000. This was reduced to £11,500, but further supplementary licences brought the amount up to £13,106. It was discovered, said Mr. Casswell, the licence had been exceeded by £5,025. Of this, £2,750 was by the contractor, £730 by the sub-contractor and £1,545 by the electrician. An inspector who went to the hotel saw the walls were papered. Mr. Harding told him: "We were allowed to use paper if it was already in our possession."

Alderman Harry C. Brown, director of the hotel, called as witness for the prosecution, said he remembered saying to Mr. Jackson: "It is fortunate we had our paper before the licence was issued."

The Recorder (Mr. N. R. Fox-Andrews) agreed with submissions by counsel for Mr. Harding and Mr. Jackson that there was no express prohibition of the use of wallpaper in the licence.

Mr. Jackson said as soon as he saw the licensed figure was going to be exceeded he reported to the Ministry. He attributed the excess to the rise in prices of materials, cost of labour, and loss during the cold weather in early 1947.

Mr. Harding blamed rise in wages, cost of paint and other materials.

During the cross-examination of a witness the Recorder adjourned the court On the resumption, he said he had received a note from the jury stating that it was their unanimous opinion that Mr. Jackson had acted in accordance with his duties and authority and that there was no case for him to answer. A verdict of not guilty was accordingly returned and Mr. Jackson was discharged.

Mr. Dennis Bradbury, manager of the Bournemouth branch of Young, Austen and Young, said his estimate for £4,000, made in August, 1946, was an honest one. Cost of materials had increased. It was essential for safety reasons to put in new boilers.

Mr. Norman Aish, governing director of Aish's, said his company did not know how much was allowed for in the licence for their work.

Mr. Casswell said if Young, Austen and Young had explained the necessity of the boilers they would not have been faced with the prosecution.

BUILDING ACTIVITY IN EUROPE

AN AMERICAN VISITOR'S IMPRESSIONS

CANDID observations and impressions of building and general trade activity in Europe was given by MR. HERBERT U. NELSON, vice-president of the National Association of Real Estate Boards of the United States, when he addressed the Building Industries Luncheon Club at Park-lane Hotel, London, on August 12. Mr. Nelson has recently made an extensive tour of European countries, including Sweden, Denmark, Germany, Holland, Belgium, France, Switzerland and Spain, finishing with a visit to Great Britain.

Recounting some of his impressions, Mr. Nelson said that in Stockholm he found a free and active building market, with 60,000 housing units in course of construction. Most of them were being built privately, without any restrictions or price ceilings. He was interested to see the progress being made by the famous "H.S.B.," the co-operative housing movement in which people help to build their homes, and he found that several thousands of houses were being built under this private enterprise method.

A colleague had the idea that it might be possible to use some of the Swedish houses in the United States, and intimated that he was prepared to buy six million dollars' worth. In return he wanted to sell six million dollars' worth of paint. The Swedish Government, however, were not prepared to sanction such a deal, and Mr. Nelson quoted the case as an example of the restrictions which monetary control put on private business.

In Denmark, apart from the houses being built for sale there were mutual building societies providing homes for rent. The operating system of priority for homes being accorded large families was new to him, although he understood that a similar system was followed in this country.

"In Holland," continued Mr. Nelson, "the controls are quite rigid. This, coupled with the fact that rents are also controlled, is affecting the small builders, who are gradually being squeezed out of business, with the Government dealing only with the big contractors.

Most Prosperous Country.

"In Belgium we found an active market in everything and fewer restrictions on building than in any other country in Europe. Belgium, I feel, is by far the most prosperous of the countries I visited. The standard of building and construction is good, and they are building for the whole range of demand.

"Building work is practically non-existent in France. Here and there they are patching up a few buildings and churches, and in the South of France we did see about 50 houses being erected, but that was almost all we saw. Rents have been controlled there since World War I and are limited by law to a fixed percentage of a man's income. Legislation dealing with rents is most confusing, and they are now trying to put through a consolidated rent control law which will pull together some 30 different laws which have as their basis the conditions obtaining a generation or so ago. The present situation is such that nobody, not even the Government, is anxious to start any building, and they are content to get along with what they have.

"I asked if they were agreeable to a scheme for the erection of 500 American prefabricated houses in Paris, and on being informed that they were prepared to consider the matter, I suggested some form of agreement or contract be drawn up. It was subsequently revealed, however, that the present legislative situation was such that we could not build in France even if we supplied our own labour and the houses were erected as a gift.

"Whilst visiting Spain we went to Barcelona, and in many ways it is the best planned city for modern needs I have seen. The building programme going forward is astonishing, and it includes the erection of small houses for sale without any restrictions on price. The most impressive thing about Barcelona is that it is the scene of a great surge of business; the place is crowded with agents and representatives from almost every country in the world. The 21 South American States are returning to Spain for certain of their services and requirements, and this has helped to foster a big business boom in that country.

"In Switzerland we found an active building industry and houses being built without restriction. Rents are controlled, but a scheme has been introduced whereby the Government establishes the rents for new buildings at such a figure as to give a fair return on capital invested.

"In Bavaria a steady flow of building is in progress, and a considerable amount of assistance is being given by the architects and engineers in the American Occupation Forces."

Turning to his experiences in this country, Mr. Nelson went on to say that when he arrived here he thought he would put forward the offer he had made to the French Government regarding the erection of 500 prefabricated American houses. He met officials at the Ministry of Health and learned that if he erected the houses in this country, supplying all the labour and materials without affecting this country's materials market, he would, nevertheless, not be allowed to sell those houses freely. Instead he would have to go to the Government and get a list of the people who would be permitted to buy them. In addition, he would not be able to sell the houses at a price beyond the maximum prices allowed to builders in this country.

"No business man in his right senses would put his head through that type of noose," commented Mr. Nelson.

10th EDITION NOW READY

HOW TO ESTIMATE

for Every Class of Building Work

By J. T. REA

This well-known standard work is now re-issued with an important new series of comparative tables of costs revised to October, 1947.

THESE TABLES GIVE FULL DETAILS OF:

(1) Increases in cost of Building Materials for years 1937, 1939, 1944, 1945 and 1946.
(2) Increases in Labour Rates and percentage increases for the above five years together with the Wages Increase and Bonus Incentive introduced in Oct. 1947.
(3) Average relative proportion of each trade to a complete building operation, with ratios of Labour to Material in each Trade and approximate percentage increases for the respective years, 1937-1946.
(4) Percentage Cost of Building Work as at 1914 compared with the years 1920-1946.
(5) Notes on the Acts and Regulations affecting the Control of Civil Building, War Damage Claims, etc.

730 pages with over 600 illustrations, Large 8vo. Cloth Gilt. Price 18/- net (by post, 18/9).

B. T. BATSFORD, LTD.

15 North Audley Street, London, W.1

PERMANENT PRECAST HOUSING

PROGRESS ON L.C.C. ESTATES

FIVE hundred houses in the Stent method of construction are at present being erected by the London County Council on their Hainault and Loughton, Essex, and Oxhey, Hertfordshire, Estates. The first Stent house to be completed was opened on July 19 by Mr. C. W. Gibson, J.P., M.P., Chairman of the Housing Committee, on the Hainault Estate, where the contractors, Messrs. Walker (Tooting), Ltd., of Hackbridge, Surrey, are erecting one hundred houses to plans prepared by the Director of Housing and Valuer, Mr. C. H. Walker, O.B.E., M.C., F.R.I.C.S.

These houses form part of a scheme of 2,500 dwellings. The estate covers part of the old Hainault Forest and is on picturesque rising ground. The Stent system of precast concrete permanent construction is adaptable for housing on level or stepped sites, and has been approved by the Burt Committee. The Ministry of Works has erected fifty demonstration Stent houses of various types at its experimental Estate at Chertsey. The main wall component is 12 in. wide, and permits of considerable flexibility in planning. The window units are composite concrete surrounds with metal sashes. The string course at first-floor level forms a continuous beam and allows for the timber joists to be anchored in, while the overhanging soffit course is a distinctive feature in the design.

The houses have a "Tyrolean" finish in varying tones and the roofs are gabled or hipped and covered with pleasing dark or light red tiling. The house interior follows normal planning. The concrete components were manufactured by the Stent Precast Concrete Company, Dagenham, Essex.

RIDING IN A BARROW HOIST

AN ex-sailor, Leonard Archibald Porter, of Barking, pleaded guilty at the North London Magistrates Court on July 29, on a summons, for having, at Warwick-grove, Clapton, contravened the Building (Amendment) Regulations, 1931, made under the Factory and Workshop Act, by riding in a barrow hoist.

Mr. Charles F. Carr, a factory inspector, said that there had been a number of serious accidents, including two fatalities, this year, through this kind of thing. As an inspector he had done his best, by verbal warnings to men, to stop it, but evidently he had not been successful.

The magistrate told the defendant that he hoped he now appreciated the point of these regulations, and asked him to give a solemn undertaking not to do this sort of thing again in any circumstances.

Porter agreed that he would give such an undertaking, and the magistrate then dismissed the summons under the Probation of Offenders Act.

SYNTHETIC BOARDS AND PLYWOODS

WIDE RANGE AT EXHIBITION

SOME 400 samples of boards and plywoods, both flat and "formed," including plastics, laminates and boards made from waste products bonded by synthetic resins, will be on view in the Council of Industrial Design's new exhibition hall at Murray House, Petty France, S.W.1, from October 18 to 31.

The problems met with in the day-to-day practice of a number of well-known designers suggested the value of this first attempt to collect under one roof a comprehensive range of synthetic boards and plywoods to include most of the types in commercial use other than those used for building and structural purposes.

The exhibition will illustrate the type of research which opens up new possibilities in the design and manufacture of articles normally made in materials often in short supply. It is hoped to demonstrate that these synthetic boards can be regarded, not as inferior or makeshift substitutes for traditional materials, but as interesting alternatives for the designers and manufacturers of articles such as kitchen equipment, furniture, radio cabinets, perambulators, vehicle components, commercial packs, etc.

Among the exhibits will be plywoods with metal veneers, boards coated with glass fibre and plywoods with backings and fillings of bonded waste products such as straw and linseed. There will also be examples of consumer goods and component parts made from new materials by methods not requiring expensive tooling.

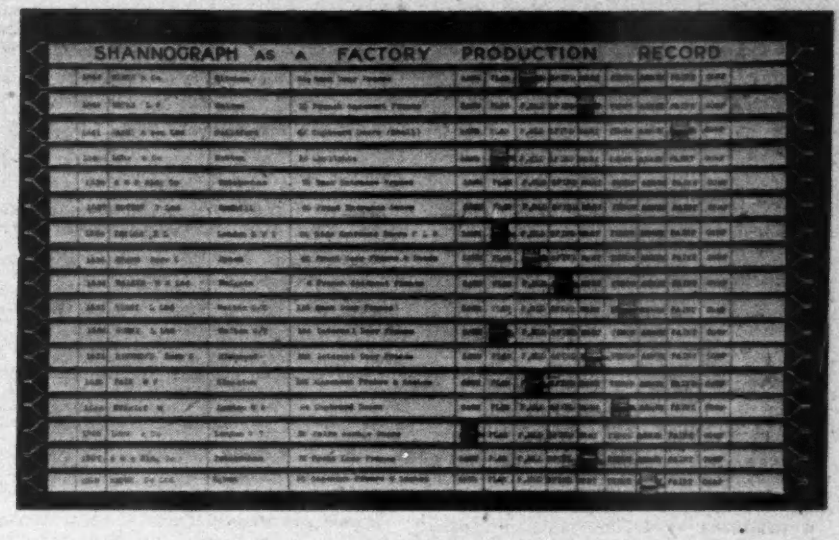
The exhibits, which have been collected with the assistance of trade associations and the research organisations of individual firms, will be shown in divisions determined by the process as used in their manufacture. It is hoped that this exhibition will suggest new and interesting developments in the manufacture of the goods which British industry will be showing the world in the 1951 Festival of Britain.

TIMBER FOR PLYWOOD

DISCUSSIONS BETWEEN BRITISH AND FRENCH

ONE of the questions now being discussed between the representatives of the British Colonial Office and the French Ministry of the Colonies, writes a correspondent, is the growing of more timber in the African colony of Gabon. Gabon timber is used considerably for plywood and is also the basic material for the manufacture of furniture and floor boards. The problem from the French point of view is that Gabon has a very limited population. Accordingly efforts are being made by France to attract more labour into the heart of French Equatorial Africa.

A basis of the whole negotiation is that the exploitation of the forests of Gabon shall not be carried at the expense of the Africans. Under the declaration of Brazzaville of February, 1944, the African people are to receive the true market price for raw material. An organised scheme of work in the African colonies of both Great Britain and France has been discussed at the recent conference in Paris. Many would like Belgium and Portugal to be invited to take part in these deliberations, which are of direct interest to British builders in view of our present shortage of timber.



The Shannograph Filing Unit *(see below).*

TRADE NEWS

Change of Address.

Bernard Sunley & Sons, Ltd., civil engineers and building contractors, announce that their new offices are at 34, St. James's-street, Westminster, S.W.1. Tel. Whitehall 9755.

Standards for Fans.

The Fan Manufacturers' Association, Ltd., 23, Queen-square, W.C.1, has issued a booklet on "Fans. Terms, Definitions and Standards in use by the Fan Engineering Industry," price 2s. 6d., by post 2s. 8d.

Chief London Representative.

Messrs. Haywards, Ltd., of Union-street, Borough, London, S.E.1, have appointed Mr. E. G. V. Alland as their chief London representative, in place of Mr. R. J. Gale, who has left their service. Mr. Alland will operate from the firm's central London office, 44-46, Kingsway, W.C.2 (tel.: Holborn 2394).

A New Filing Unit.

The Shannograph filing unit, shown here, is produced by Shannon Systems. Each file is flat across the top so as to permit full details to be typed. At the left is the order number, customer and address. At the right is any sequence of production details, stage by stage. The signals seen are coloured and slide along the flat top so that the production executive can see at a glance the position of each job. A variety of colours permits the signals to convey other information (i.e., red for seriously behind schedule, blue for slightly behind, green for up-to-date, yellow for ahead of). Colour coding makes misfiling impossible.

A New Electric Hoist.

R. D. Cardiff, Ltd., have produced the "Ardecar Hoistmaster" range of electric hoists which handle from 5 cwt. to 5 tons and are built for smooth, silent operation. The manufacturers claim the following advantages for their hoists:—

A worm reduction drive prevents the load from taking control in the event of brake-wear or failure. The hoists are easy to maintain and moving parts have been reduced to a minimum with heavy duty ball and roller bearings throughout requiring infrequent lubrication. The totally enclosed high torque ball-bearing electric motor is detachable, whilst the electro-mechanical brake, which exercises accurate control over movement, is placed for ease of adjustment. An automatic hoisting limit switch is fitted to prevent over-winding. A lowering limit switch can also be fitted. The bogie chassis will operate on different sizes of girder and can be supplied fitted with electric collector gear. The worm reduction gear is oil-immersed and runs in an enclosed cast-steel gear-case. All models can be supplied with either fixed suspension, push travel, electric power or hand chain travel, with the exception of 2- to 5-ton models, which are not supplied with push travel. The standard models are obtainable in the following voltage ranges: 200/240, 340/380, 380/440 and 500/550. All these phase 50 cycles. Variation from the standard models in height and speed of lift and speed of traverse can also be obtained at a slight extra cost. The non-rotating wire rope eliminates the tendency of bottom blocks to rotate or twist when not under load. A rope guide ensures the accurate laying of rope on the drum.

PATENT GLAZING by AYGEE in ALUMINIUM ALLOY SYSTEMS and LEAD CLOTHED STEEL
Enquiries Invited
AYGEE LTD.
100, Westminster Bridge Road
London, S.E.1. *'Phone: WATerloo 6314.*
BARS ONLY SUPPLIED IF REQUIRED

BUILDING ACTIVITY IN EUROPE

AN AMERICAN VISITOR'S IMPRESSIONS

CANDID observations and impressions of building and general trade activity in Europe was given by MR. HERBERT U. NELSON, vice-president of the National Association of Real Estate Boards of the United States, when he addressed the Building Industries Luncheon Club at Park-lane Hotel, London, on August 12. Mr. Nelson has recently made an extensive tour of European countries, including Sweden, Denmark, Germany, Holland, Belgium, France, Switzerland and Spain, finishing with a visit to Great Britain.

Recounting some of his impressions, Mr. Nelson said that in Stockholm he found a free and active building market, with 60,000 housing units in course of construction. Most of them were being built privately, without any restrictions or price ceilings. He was interested to see the progress being made by the famous "H.S.B.," the co-operative housing movement in which people help to build their homes, and he found that several thousands of houses were being built under this private enterprise method.

A colleague had the idea that it might be possible to use some of the Swedish houses in the United States, and intimated that he was prepared to buy six million dollars' worth. In return he wanted to sell six million dollars' worth of paint. The Swedish Government, however, were not prepared to sanction such a deal, and Mr. Nelson quoted the case as an example of the restrictions which monetary control put on private business.

In Denmark, apart from the houses being built for sale there were mutual building societies providing homes for rent. The operating system of priority for homes being accorded large families was new to him, although he understood that a similar system was followed in this country.

"In Holland," continued Mr. Nelson, "the controls are quite rigid. This, coupled with the fact that rents are also controlled, is affecting the small builders, who are gradually being squeezed out of business, with the Government dealing only with the big contractors.

Most Prosperous Country.

"In Belgium we found an active market in everything and fewer restrictions on building than in any other country in Europe. Belgium, I feel, is by far the most prosperous of the countries I visited. The standard of building and construction is good, and they are building for the whole range of demand.

"Building work is practically non-existent in France. Here and there they are patching up a few buildings and churches, and in the South of France we did see about 50 houses being erected, but that was almost all we saw. Rents have been controlled there since World War I and are limited by law to a fixed percentage of a man's income. Legislation dealing with rents is most confusing, and they are now trying to put through a consolidated rent control law which will pull together some 30 different laws which have as their basis the conditions obtaining a generation or so ago. The present situation is such that nobody, not even the Government, is anxious to start any building, and they are content to get along with what they have.

"I asked if they were agreeable to a scheme for the erection of 500 American prefabricated houses in Paris, and on being informed that they were prepared to consider the matter, I suggested some form of agreement or contract be drawn up. It was subsequently revealed, however, that the present legislative situation was such that we could not build in France even if we supplied our own labour and the houses were erected as a gift.

"Whilst visiting Spain we went to Barcelona, and in many ways it is the best planned city for modern needs I have seen. The building programme going forward is astonishing, and it includes the erection of small houses for sale without any restrictions on price. The most impressive thing about Barcelona is that it is the scene of a great surge of business; the place is crowded with agents and representatives from almost every country in the world. The 21 South American States are returning to Spain for certain of their services and requirements, and this has helped to foster a big business boom in that country.

"In Switzerland we found an active building industry and houses being built without restriction. Rents are controlled, but a scheme has been introduced whereby the Government establishes the rents for new buildings at such a figure as to give a fair return on capital invested.

"In Bavaria a steady flow of building is in progress, and a considerable amount of assistance is being given by the architects and engineers in the American Occupation Forces."

Turning to his experiences in this country, Mr. Nelson went on to say that when he arrived here he thought he would put forward the offer he had made to the French Government regarding the erection of 500 prefabricated American houses. He met officials at the Ministry of Health and learned that if he erected the houses in this country, supplying all the labour and materials without affecting this country's materials market, he would, nevertheless, not be allowed to sell those houses freely. Instead he would have to go to the Government and get a list of the people who would be permitted to buy them. In addition, he would not be able to sell the houses at a price beyond the maximum prices allowed to builders in this country.

"No business man in his right senses would put his head through that type of noose," commented Mr. Nelson.

10th EDITION NOW READY

HOW TO ESTIMATE

for Every Class of Building Work

By J. T. REA

This well-known standard work is now re-issued with an important new series of comparative tables of costs revised to October, 1947.

THESE TABLES GIVE FULL DETAILS OF:

(1) Increases in cost of Building Materials for years 1937, 1939, 1944, 1945 and 1946.
(2) Increases in Labour Rates and percentage increases for the above five years together with the Wages Increase and Bonus Incentive introduced in Oct. 1947.
(3) Average relative proportion of each trade to a complete building operation, with ratios of Labour to Material in each Trade and approximate percentage increases for the respective years, 1937-1946.
(4) Percentage Cost of Building Work as at 1914 compared with the years 1920-1946.
(5) Notes on the Acts and Regulations affecting the Control of Civil Building, War Damage Claims, etc.

730 pages with over 600 illustrations, Large 8vo. Cloth Gilt. Price 18/- net (by post, 18/9).

B. T. BATSFORD, LTD.

15 North Audley Street, London, W.1

PERMANENT PRECAST HOUSING

PROGRESS ON L.C.C. ESTATES

FIVE hundred houses in the Stent method of construction are at present being erected by the London County Council on their Hainault and Loughton, Essex, and Oxhey, Hertfordshire, Estates. The first Stent house to be completed was opened on July 19 by Mr. C. W. Gibson, J.P., M.P., Chairman of the Housing Committee, on the Hainault Estate, where the contractors, Messrs. Walker (Tooting), Ltd., of Hackbridge, Surrey, are erecting one hundred houses to plans prepared by the Director of Housing and Valuer, Mr. C. H. Walker, O.B.E., M.C., F.R.I.C.S.

These houses form part of a scheme of 2,500 dwellings. The estate covers part of the old Hainault Forest and is on picturesque rising ground. The Stent system of precast concrete permanent construction is adaptable for housing on level or stepped sites, and has been approved by the Burt Committee. The Ministry of Works has erected fifty demonstration Stent houses of various types at its experimental Estate at Chertsey. The main wall component is 12 in. wide, and permits of considerable flexibility in planning. The window units are composite concrete surrounds with metal sashes. The string course at first-floor level forms a continuous beam and allows for the timber joists to be anchored in, while the overhanging soffit course is a distinctive feature in the design.

The houses have a "Tyrolean" finish in varying tones and the roofs are gabled or hipped and covered with pleasing dark or light red tiling. The house interior follows normal planning. The concrete components were manufactured by the Stent Precast Concrete Company, Dagenham, Essex.

RIDING IN A BARROW HOIST

AN ex-sailor, Leonard Archibald Porter, of Barking, pleaded guilty at the North London Magistrates Court on July 29, on a summons, for having, at Warwick-grove, Clapton, contravened the Building (Amendment) Regulations, 1931, made under the Factory and Workshop Act, by riding in a barrow hoist.

Mr. Charles F. Carr, a factory inspector, said that there had been a number of serious accidents, including two fatalities, this year, through this kind of thing. As an inspector he had done his best, by verbal warnings to men, to stop it, but evidently he had not been successful.

The magistrate told the defendant that he hoped he now appreciated the point of these regulations, and asked him to give a solemn undertaking not to do this sort of thing again in any circumstances.

Porter agreed that he would give such an undertaking, and the magistrate then dismissed the summons under the Probation of Offenders Act.

SYNTHETIC BOARDS AND PLYWOODS

WIDE RANGE AT EXHIBITION

SOME 400 samples of boards and plywoods, both flat and "formed," including plastics, laminates and boards made from waste products bonded by synthetic resins, will be on view in the Council of Industrial Design's new exhibition hall at Murray House, Petty France, S.W.1, from October 18 to 31.

The problems met with in the day-to-day practice of a number of well-known designers suggested the value of this first attempt to collect under one roof a comprehensive range of synthetic boards and plywoods to include most of the types in commercial use other than those used for building and structural purposes.

The exhibition will illustrate the type of research which opens up new possibilities in the design and manufacture of articles normally made in materials often in short supply. It is hoped to demonstrate that these synthetic boards can be regarded, not as inferior or makeshift substitutes for traditional materials, but as interesting alternatives for the designers and manufacturers of articles such as kitchen equipment, furniture, radio cabinets, perambulators, vehicle components, commercial packs, etc.

Among the exhibits will be plywoods with metal veneers, boards coated with glass fibre and plywoods with backings and fillings of bonded waste products such as straw and linseed. There will also be examples of consumer goods and component parts made from new materials by methods not requiring expensive tooling.

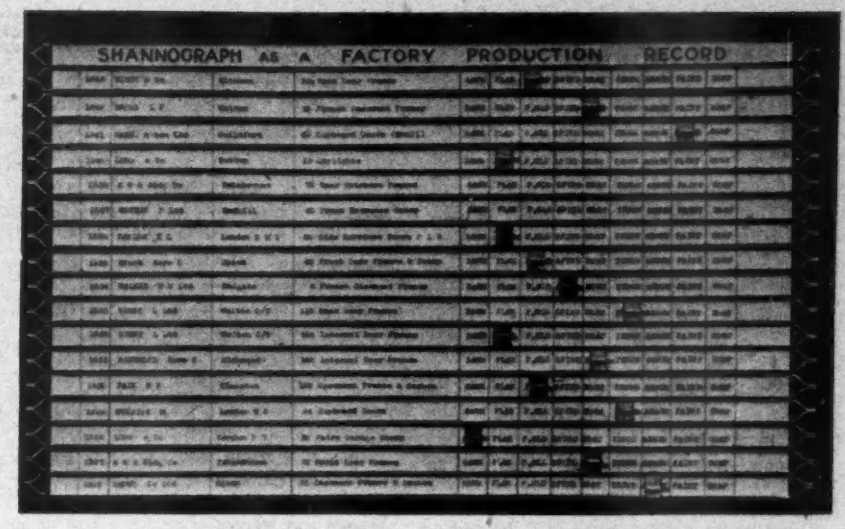
The exhibits, which have been collected with the assistance of trade associations and the research organisations of individual firms, will be shown in divisions determined by the process as used in their manufacture. It is hoped that this exhibition will suggest new and interesting developments in the manufacture of the goods which British industry will be showing the world in the 1951 Festival of Britain.

TIMBER FOR PLYWOOD

DISCUSSIONS BETWEEN BRITISH AND FRENCH

ONE of the questions now being discussed between the representatives of the British Colonial Office and the French Ministry of the Colonies, writes a correspondent, is the growing of more timber in the African colony of Gabon. Gabon timber is used considerably for plywood and is also the basic material for the manufacture of furniture and floor boards. The problem from the French point of view is that Gabon has a very limited population. Accordingly efforts are being made by France to attract more labour into the heart of French Equatorial Africa.

A basis of the whole negotiation is that the exploitation of the forests of Gabon shall not be carried at the expense of the Africans. Under the declaration of Brazzaville of February, 1944, the African people are to receive the true market price for raw material. An organised scheme of work in the African colonies of both Great Britain and France has been discussed at the recent conference in Paris. Many would like Belgium and Portugal to be invited to take part in these deliberations, which are of direct interest to British builders in view of our present shortage of timber.



The Shannograph Filing Unit *(see below).*

TRADE NEWS

Change of Address.

Bernard Sunley & Sons, Ltd., civil engineers and building contractors, announce that their new offices are at 34, St. James's-street, Westminster, S.W.1. Tel. Whitehall 9755.

Standards for Fans.

The Fan Manufacturers' Association, Ltd., 23, Queen-square, W.C.1, has issued a booklet on "Fans. Terms, Definitions and Standards in use by the Fan Engineering Industry," price 2s. 6d., by post 2s. 8d.

Chief London Representative.

Messrs. Haywards, Ltd., of Union-street, Borough, London, S.E.1, have appointed Mr. E. G. V. Alland as their chief London representative, in place of Mr. R. J. Gale, who has left their service. Mr. Alland will operate from the firm's central London office, 44-46, Kingsway, W.C.2 (tel.: Holborn 2394).

A New Filing Unit.

The Shannograph filing unit, shown here, is produced by Shannon Systems. Each file is flat across the top so as to permit full details to be typed. At the left is the order number, customer and address. At the right is any sequence of production details, stage by stage. The signals seen are coloured and slide along the flat top so that the production executive can see at a glance the position of each job. A variety of colours permits the signals to convey other information (i.e., red for seriously behind schedule, blue for slightly behind, green for up-to-date, yellow for ahead of). Colour coding makes misfiling impossible.

A New Electric Hoist.

R. D. Cardiff, Ltd., have produced the "Ardecar Hoistmaster" range of electric hoists which handle from 5 cwt. to 5 tons and are built for smooth, silent operation. The manufacturers claim the following advantages for their hoists:—

A worm reduction drive prevents the load from taking control in the event of brake-wear or failure. The hoists are easy to maintain and moving parts have been reduced to a minimum with heavy duty ball and roller bearings throughout requiring infrequent lubrication. The totally enclosed high torque ball-bearing electric motor is detachable, whilst the electro-mechanical brake, which exercises accurate control over movement, is placed for ease of adjustment. An automatic hoisting limit switch is fitted to prevent over-winding. A lowering limit switch can also be fitted. The bogie chassis will operate on different sizes of girder and can be supplied fitted with electric collector gear. The worm reduction gear is oil-immersed and runs in an enclosed cast-steel gear-case. All models can be supplied with either fixed suspension, push travel, electric power or hand chain travel, with the exception of 2- to 5-ton models, which are not supplied with push travel. The standard models are obtainable in the following voltage ranges: 200/240, 340/380, 380/440 and 500/550. All these phase 50 cycles. Variation from the standard models in height and speed of lift and speed of traverse can also be obtained at a slight extra cost. The non-rotating wire rope eliminates the tendency of bottom blocks to rotate or twist when not under load. A rope guide ensures the accurate laying of rope on the drum.

PATENT GLAZING by AYGEE in ALUMINIUM ALLOY SYSTEMS and LEAD CLOTHED STEEL
Enquiries Invited
AYGEE LTD.
100, Westminster Bridge Road
London, S.E.1. 'Phone: WATerloo 6314.
BARS ONLY SUPPLIED IF REQUIRED

THE SCOTTISH BUILDER

NEW BUILDINGS

Coatbridge.—School classrooms to be erected by Cowieson, Ltd., Springburn, Glasgow.

Glasgow.—Corporation to erect 10-storey buildings of blocks of flats at Berryknowes-rd., Cardonald.—Dean of Guild Court passed plans for two tenements each containing 54 houses to be erected for corporation at Gower-st.

Glasgow.—Dean of Guild Court passed plans for 176 4-apartment foam slag houses at Cardonald Mill.

Glasgow.—Alterations and additions proposed at 43, Wellington and 41, Waterloo-st., for which the architects are Thomson & MacRae, 212, Bath-st., Glasgow. Additions, also new erections proposed for the Red Cross Society at Park-circus, for which the architects are Gratton & MacLean, 113, West Regent-st., Glasgow.

Glasgow.—New school buildings proposed at Colston-st., Springburn-rd., for which the architect is I. MacNab, 29, Bath-st., Glasgow. Additions and alterations to be carried out by Coalhurst & Hardie, MacAlpine-st., Glasgow.

Glasgow.—New church halls, etc., to be erected at Mecklarig-ave., for which the architects are Thomson & MacRae, 212, Bath-st., Glasgow.

Kirkfieldbank.—Additions, etc., to public school, for which the architect is W. Watt, Albert-rd., Motherwell.

Milngavie.—Additions and alterations to the Black Bull Hotel, for which the architects are Forbes, Campbell & Parkins, 307, West George-st., Glasgow.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

AUGUST 25.

†**Beverley T.C.**—50 houses at Swinemoor estate. T.C., Municipal Offices. Dep. £2 2s.

AUGUST 26.

†***Upton-on-Severn R.D.C.**—Conversion of buildings into 8 flats. Pemberton & Bateman (F. and A.), 21, Vine-st., Evesham. Dep. £2 2s Tenders by September 11.

AUGUST 27.

†***Wanstead and Woodford B.C.**—48 flats at "The Hermitage" estate, Snaresbrook-rd. R. Trend Binks, T.C., Municipal Offices, High-rd., Woodford, E.18.

AUGUST 28.

†**Glendale R.D.C.**—2 houses with site works at Oliver-rd., Wooler. C., Alnwick, Northumberland. Dep. £2 2s

†***Southampton C.B.**—Repairs and alterations (stage 1) at Southampton Technical College. Boro' A. Dep. £2 2s. Tenders by September 22

AUGUST 30.

Bexhill T.C.—20 houses at Grangecourt-dr., with fencing and drainage works. B.E. & S. Dep. £2 2s.

†***Biggleswade R.D.C.**—20 houses at 3 sites. P. R. Chaundler, C., Council Offices, 2, London rd.

Caine T.C.—28 houses at Abberd housing (No. 3) scheme. Council Offices, 6, Patford-st. Dep. £2 2s.

Cuckfield R.D.C.—16 dwellings at Copthorne, Contract No. 41. E. & S., Council Offices, Boltro-rd., Haywards Heath. Dep. £2 2s.

Deal T.C.—50 houses at Orchard-ave. estate. B.E. and S. Dep. £2 2s.

Ellesmere Port U.D.C.—29 houses at Newnham-dr., Stanney estate. E. & S., Queen-st. Dep. £3 3s.

Frome R.D.C.—8 houses at Nunney. J. Rogers, Architect, Radstock, nr. Bath. Dep. £1 1s. (by cheque payable to R.D.C.).

Llandovery T.C.—8 houses at King's Arms-st. Thomas and Morgan and Partners, 23, Gelliwastad-rd., Pontypridd. Dep. £3 3s.

Northampton C.B.—90 houses at Dallington Fields estate. Boro' A., Guildhall. Dep. £2 2s.

Norwich T.C.—178 dwellings at West Earlham estate. City A., City Hall. Dep. £1

Penryn T.C.—4 houses with road and sewer works at Bissom. B.S., Municipal Offices. Dep. £2 2s.

Shrewsbury T.C.—60 houses at, Crowmoor. B.S. Dep. £2 2s.

Southwick U.D.C.—6 flats at Manor Hall-rd. E. A. Coates, E. & S., Town Hall. Dep. £3 3s.

States of Guernsey.—14 houses at Les Islets Arsenal, St. Peter-in-the-Wood. G. Heggs, States Engineer, States Office, Guernsey. Dep. £1.

Stockton-on-Tees E.C. — Proposed junior school at Ragworth estate, Darlington-la. Boro' A., 124, High-st. Dep. £2 2s.

Weymouth and Melcombe Regis T.C.—16 flats at Westhaven estate, Abbotsbury-rd., Weymouth. B.E. & S., 6, Pulteney-bldgs. Dep. £2 2s.

AUGUST 31.

Abercarn U.D.C.—30 houses at Personby site. H. A. Rees, architect, Council Offices. Dep. £5 5s.

Bournemouth C.B.—16 houses, East-way. Boro' A. Dep. £2 2s.

†***Derby C.B.**—Conversion of Ashe Hall, Etwall, into Special School. Thos. W. East (F.), Boro' A. Dep. £2 2s.

***East Ham C.B.**—25 houses, Telham-rd. Chief Housing Officer, Town Hall. Dep. £2 2s.

Leeds Regional Hospital Board.—Extensions to boiler house at St. James's Hospital. Kitson, Parrish, Ledgard & Pyman, chartered architects, Lloyds Bank-chbrs., Vicar-la., Leeds. Dep. £2 2s.

Liskeard T.C.—12 houses with incidental works at Lanchard-la. area. Higman & Ford, chartered architects, 2, The Parade, Liskeard. Dep. £2 2s.

Merton and Morden U.D.C.—(1) War damage repairs to buildings at Joseph Hood recreation ground; (2) war damage and other repairs to buildings in other open spaces; (3) painting W.I. fencing, etc., in open spaces; (4) repairs, etc., to W.I. and chain link fencing in open spaces. E. & S.

†***Whitby U.D.C.**—26 houses off Stakesby-rd. Peacock & Bewlay, 83, Colmore-row, Birmingham 3. Dep. £2 2s.

Willenhall U.D.C.—18 houses at Dilloways-la. and 4 houses at Bilston-la. E. & S., Town Hall. Dep. £2 2s

SEPTEMBER 1.

Alcester R.D.C.—32 houses at Bidford-on-Avon and 18 at Studley. Francis B. Andrews & Son, 95, Colmore-row, Birmingham 3. Dep. £2 2s.

Liverpool T.C.—28 houses and 32 flats at Lyme Grove estate. City A. and Director of Housing. Dep. £2 2s.

Newport (Mon.) C.B.—Dental surgeries and alterations to existing aural treatment and orthoptic clinic, etc., at Bryngwyn School clinic, Clytha Park. Boro' A., Town Hall. Dep. £2 2s.

†***Norfolk E.C.**—Conversion of existing rooms into kitchen and storage accommodation at Great Ryburgh Voluntary Primary School. W. O. Bell, Chief Ed. Officer, Stracey-rd.

Stafford T.C.—26 houses at Rising Brook estate. B.E. & S., Mount-st. Dep. £2 2s.

Wellington (Salop) U.D.C.—24 houses at Arleston, site B. W. B. Bond, F.R.I.C.S., 3, Newhall-st., Birmingham, 3. Dep. £2 2s.

†***West Sussex C.C.**—3-form Entry Secondary Modern School at Midhurst. F. R. Steele (F.), County A., County Hall, Chichester.

Willenhall U.D.C.—50 houses at Beacon Colliery estate. Harvey & Wicks (FF.), 117, Hagley-rd., Edgbaston, Birmingham 16. Dep. £2 2s.

SEPTEMBER 2.

Burgess Hill U.D.C.—18 houses at West Park estate. E. & S., Council Offices, 32, Church-rd. Dep. £2 2s.

***Southend-on-Sea C.B.**—Conversion of 273, London-rd. into 4 flats. B.E. Dep. £2

Wantage U.D.C.—4 houses at Wantage. W. G. Stanbrook, A.I.A.A., 26, North Brook-st., Newbury. Dep. £2 2s.

SEPTEMBER 3.

***Canterbury T.C.**—54 houses at Spring-la. site. L. Hugh Wilson (A.), City A. Dep. £2 2s.

Farnborough U.D.C.—5 shops with s.c. flats over at Hawley housing scheme. I. C. Jenkins (L.), E. & S., Town Hall. Dep. £3 3s.

†***Lincoln C.C. (Parts of Kesteven).**—Pair of police houses at Manning-rd., Bourne. C. B. Metcalfe (F.), County A., County Offices, Sleaford. Tenders by September 18.

Rowley Regis T.C.—28 houses at Brickhouse Farm estate. B.E. & S. Dep. £2 2s.

***St. Albans R.D.C.**—4 pairs of houses at Tassell Hall estate, Lybury-la., Redbourn. Architect and S., 43, Upper Lattimore-rd. Dep. £1 1s.

Staines U.D.C.—Conversion of Shortwood House, London-rd., into council offices. E. & S., Bridge-st. Dep. £5 5s.

Sutton Coldfield T.C.—22 houses at Reddicapp Heath-rd. B.S. Dep. £2 2s.

†***West Sussex C.C.**—Alterations and minor additions to convert existing stable block, etc., at 3, Union-pl., Worthing, into offices for County Planning Area Office (Job No. 1,228). F. R. Steele (F.), F.R.I.C.S., County A., County Hall, Chichester.

SEPTEMBER 4.

Abergavenny R.D.C.—12 houses at Maerdy and 6 Airey houses at Grosmont. J. Merton Jones & Sons (L.), St. Mary's-chbrs., Abergavenny. Dep. £2 2s.

Beds. C.C.—Police house with office at 3 sites. County A., Shire Hall, Bedford. Dep. £2 2s. each house.

***Billericay U.D.C.**—(a) 5 pairs of houses at Laindon site, and (b) 5 pairs at Vange site. S., Council Offices. Dep. £2 2s.

Broadstairs and St. Peter's U.D.C.—15 houses at Westover-rd. estate. E. & S. Dep. £2 2s.

Chippenham T.C.—Additional sanitary accommodation, etc., at town hall and Neeld Hall. B.E., The Old Palace, 10, Market-pl. Dep. £2 2s.

Colwyn Bay T.C.—16 houses at Mochdre. B.E. & S., Town Hall.

Horsforth U.D.C.—12 houses at Drury-la. site. E. & S., Horsforth Hall, Horsforth. Dep. £3 3s.

Staveley U.D.C.—30 houses at Inkersall Green estate. E. & S. Dep. £2 2s.

***Stepney B.C.**—War damage repairs to various properties. Chief Technical Officer for War Damage, 191-193, Commercial-rd., E.1. Dep £2 2s.

SEPTEMBER 6.

Atherstone R.D.C.—41 houses at various sites. H. N. Jepson (A.), Midland Bank-chbrs., Nuneaton. Dep. £3 3s.

Batley T.C.—8 houses at Healey-la. estate. B.E

***Beckenham T.C.**—1 two-storey block of 4 flats for aged people at Seward-rd. B.E. & S. Dep. £2.

Brighton C.B.—56 bungalows at Hollingbury estate. B.E. & S., 26-30, King's-rd. Dep. £2 2s. (payable to Boro' Treas.).

Derby C.B.—Conversion of 218, Osmaston-rd. into day and residential nursery. Thos. W. East (F.), Boro' A., Council House. Dep. £2 2s.

Finchley B.C.—102 flats and 59 houses in 4 contracts on various sites. Boro' Housing and Town Planning Dept., The Avenue, Regent's Park-rd., N.3. Dep. £3 3s. each contract.

***Harrow U.D.C.**—Reconstruction at 36, Milton-rd., Wealdstone. E. & S. Dep. £2 2s.

***Hitchin U.D.C.**—40 houses at Purwell-la. estate. S., Old Town Hall, Hitchin. Dep. £2 2s.

Kingsbridge R.D.C.—2 pair blocks of houses at Ringmore. H. Parsons, M.Inst.R.A., Council Offices, Manor House. Dep. £2 2s.

Lincoln T.C.—82 houses at Boultham Moor North estate. Housing A., Stamp End, Lincoln. Dep. £3 3s.

Liverpool T.C.—Erection of special school and alterations to "Abbot's Lea" and "Beacon Hill," Beaconsfield-rd. City A. and Director of Housing. Dep. £2 2s.

Pewsey R.D.C.—4 houses at Everleigh with sewers. E. & S. Dep. £2 2s.

***Portland U.D.C.**—14 houses at Pound Piece, Weston. Crickmay & Sons, 23, St. Thomas-st., Weymouth. Dep. £2 2s.

Warwickshire C.C.—List of contractors for maintenance and new building work. C. H. Elkins, F.R.I.B.A., County Architect, Warwick.

SEPTEMBER 7.

East Dereham U.D.C.—8 houses at Sandy-la. estate. S., Becclesgate House. Dep. £2 2s.

Ilkley U.D.C.—14 houses at Mayfield-ave. site. A. Skinner, M.I.Mun.E., Town Hall. Dep. £2 2s.

†*West Sussex Standing Joint Committee.—(1) Police house with office and garage at Faygate (Job No. 82); (2) 2 pairs of police houses at Irene-ave., Lancing (Job No. 299); (3) police house with office and garage at Middleton-rd., Felpham (Job No. 78); (4) police house with office and garage adjoining "Melrose" House, Partridge Green (Job No. 73); (5) 2 pairs of police houses at Crawley (Job No. 778). F. R. Steele (F.), F.R.I.C.S., County A., County Hall, Chichester.

SEPTEMBER 8.

Ashton-in-Makerfield U.D.C.—36 houses at Bryn Station site. S., Town Hall. Dep. £2 2s.

Blaby R.D.C.—32 houses at 4 sites. E. & S., Council Offices, Narborough, nr. Leicester. Dep. £2 2s.

***Dorchester R.D.C.**—4 bungalows at Poundcl., Osmington, and 6 houses at Pound-cl., Charminster. F. E. Jay, M.Inst.R.A. (L.), 58, High West-st., Dorchester. Dep. £2.2s.

East Ham C.B.—Community Centre, Eisenhower-drive, Beckton. B.E. Dep. £2 2s.

Hampshire C.C.—Conversion of Basingstoke Old Queen Mary's school into junior technical school. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

Morecambe and Heysham T.C.—16 houses at Trumacar-la. site. B.S. Dep. £2 2s.

†*Tottenham B.C.—2 blocks of flats (12 dwellings) at Asplins-rd. estate. B.E. & S. Dep £2 2s.

SEPTEMBER 9.

Milford Haven U.D.C.—Block of 3 shops and 2 flats at junction of Pill-la. and Pill-rd. E. & S., Town Hall. Dep. £2 2s.

†*West Sussex C.C.—Canteen kitchen and dining-room at Easebourne Parochial School, nr. Midhurst (Job No. 964). F. R. Steele (F.), F.R.I.C.S., County A., County Hall, Chichester.

SEPTEMBER 10.

***Blackpool C.B.**—82 houses at Grange Park estate. B.S. Dep. £2 2s.

***Chertsey U.D.C.**—36 houses at Courtland Meadow estate. E. & S.

***Derby C.B.**—50 houses at various sites in 3 contracts. Thos. W. East (F.), Boro' A. Dep. £2 2s

Hampshire C.C.—Alterations and adaptations to certain buildings at Fareham Isolation Hospital for Primary school. S. Low, County A., The Castle, Winchester. Dep. £1 1s.

Strood R.D.C.—6 houses and 4 flats at High Halstow, 8 flats at Hoo and 2 houses at Lower Stoke. E. & S., Council Offices, Frindsbury-hill, Strood. Dep. £5 5s.

Todmorden T.C.—6 houses at Carr House estate. B.E. Dep. £2 2s.

SEPTEMBER 11.

Mitford and Launditch R.D.C.—3 pairs of Airey houses with drainage, sewage disposal works and water supply services. Harold Marsh (L.), 4a, Market-pla., East Dereham. Dep. £2 2s

***Wrexham T.C.**—30 flats at Queen's Park. H. Anthony Clark (L.), 1, Grosvenor-rd., Wrexham. Dep. £2 2s. (by cheque payable to T.C.).

SEPTEMBER 13.

Aberdare U.D.C.—20 houses at Penywaun. E. & S., Vestry Hall. Dep. £2 2s.

***Newport (Mon.) C.B.**—Adaptation of part of Premier Hall and School Canteen as kitchen and dining-hall for Modern Secondary School, Stow Hill. Boro' A., Town Hall. Dep. £2 2s.

***Weymouth and Melcombe Regis T.C.**—1 pair of cottages at Radipole-la., Weymouth. Dep. £2 2s.

SEPTEMBER 15.

***Huntingdon R.D.C.**—3 pairs of houses at Upwood. E. B. Parkinson (L.), Montagu House. Dep. £2 2s.

South Kesteven R.D.C.—16 houses at 4 sites. W. E. Norman Webster, architect, 1a and 2a, Station-st., Spalding, Lincs.

SEPTEMBER 17.

Chester T.C.—Necessary building work for completion of County Secondary Modern School, Handbridge, contract No. 3. City E. & S. Dep. £2 2s.

SEPTEMBER 18.

***New Romney (Kent) T.C.**—8 houses at Station-rd. T.C., Town Hall, New Romney.

SEPTEMBER 20.

***Leominster T.C.**—16 houses at Westfield-walk. Walter B. Bond, F.R.I.C.S., 3, Newhall-st., Birmingham 3. Dep. £2 2s.

SEPTEMBER 25.

Gravesend T.C.—50 dwellings at Christian Fields-ave., nr. King's Farm. J. Garrett Bennett (F.), Boro' A., Woodville-terr. Dep. £5 5s.

Huddersfield Waterworks Dept.—4 cottages at Digley, Holmbridge. Waterworks E., 24, Ramsden-st. Dep. £2 2s.

OCTOBER 1.

***Salop C.C.**—Second instalment of Harlescott Primary School, Shrewsbury. A. G. Chart, County A., 5, Belmont, Shrewsbury. Dep. £2 2s.

OCTOBER 4.

***St. Neots U.D.C.**—Compressor house, spun-iron pumping main, etc., at Huntingdon-rd. John Taylor & Sons, Artillery House, Artillery-row, S.W.1. Dep. £5 (cheque only).

OCTOBER 5.

***Brighton C.B.**—4 shops with flats over at Carden-ave., Patcham, and 9 shops with flats over at Moulsecomb-way, Moulsecomb. D. J. Howe, M.I.C.E., M.Inst.Mun.E., 26-30, King's-rd. Dep. £1 1s. each scheme.

OCTOBER 11.

Heckmondwike U.D.C.—38 houses at Dale-la. estate. F. A. Brown, S., Oldfield-la. Dep. £2 2s.

NO DATE.

***Malvern U.D.C.**—Applications invited from contractors for building scheme at Malvern Theatre. Particulars required of recent contracts and names and addresses. Architects to whom reference may be made, J. Bulman, C., Council House.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

AUGUST 30.

***Shrewsbury T.C.**—External painting of 164 houses at Longden-rd. estate, 120 at Wingfield Close estate, 86 at Heathgates estate and The Derfald Hostel. B.S.

SEPTEMBER 6.

***Halifax C.B.**—External painting of 54 houses at Cousin-la. (west side). B.E. Dep. £1 1s.

SEPTEMBER 7.

†*Lincoln C.C. (Parts of Kesteven).—Internal and external redecoration at 93, Eastgate, Sleaford. County A., County Offices, Sleaford.

ROADS, SEWERAGE AND WATER WORKS

AUGUST 30.

Cowes U.D.C.—Reconstruction of Yarborough-rd. E. & S. Dep. £2 2s.

Liverpool Corporation Waterworks.—1,400 yds. of 25 in. dia. asbestos cement pipes at Chorley. Water E., 55, Dale-st. Dep. £5 5s.

AUGUST 31.

West Kesteven R.D.C.—3,000 yds. of 6 in. and 1,300 yds. of 3 in. dia. iron pipe water mains at Harlaxton. Elliott & Brown, Stanley House, Pelham-rd., Nottingham.

SEPTEMBER 1.

York T.C.—1,340 lin. yds. of 9 in., 15 in., 18 in. and 21 in. stoneware and concrete pipe surface water drains, etc. City E. & A. Dep. £1.

York T.C.—Roads and sewers at Askham-la. (West) estate. City E & A. Dep. £1.

BESPOKE FRAMES for SPECIAL SEATS

ARCHITECTS & BUILDERS can obtain high-class Chairs and Special Seating by specifying "FIRMBACK CHAIRS" and "CINNAMON FRAMES" in their instructions to Furnishing Contractors

J. CINNAMON LTD

Chair Frame Makers to the Upholstering Trade

FIRMBACK WORKS, ANDREWS ROAD, CAMBRIDGE HEATH LONDON, E.8

SEPTEMBER 2.

Maldon T.C.—1,100 lin. yds. of surface water sewer, dia. up to 36 in., at Spital and Fambridge-rd. B.S., Market Hill. Dep. £1 1s.

SEPTEMBER 3.

Norton R.D.C.—Sewerage and sewage disposal works at Westow. T. W. Preston, C., R.D.C. Offices, Welham-rd. Dep. £1 1s. (cheques only).

SEPTEMBER 4.

Chapel-en-le-Frith R.D.C.—700 yds. of 3 in. water main, etc., at Wormhill. Brady & Partington, Market-st., Chapel-en-le-Frith. Dep. £2.

Egham U.D.C.—Road works, kerbing and drainage works at Wapshott Farm estate. E. & S., Fire Station-bldgs., High-st. Dep. £2 2s.

SEPTEMBER 6.

Alton R.D.C.—Site works at Bentworth, Chawton and Four Marks. C., Council Offices, Barton-end, Alton. Dep. £2 2s.

Oldbury T.C.—Roads and sewers off Titford-la. B.E. & S. Dep. £2 2s.

Spalding R.D.C.—4,700 lin. yds. of 6 in. dia. spun-iron pipes with hydrants, etc., at Deeping St. Nicholas. Silcock & Simpson, 10, Park-row, Leeds 1. Dep. £5.

Worthing R.D.C.—Roadworks at Roundstone-dr., East Preston. E. & S. Dep. £2 2s.

SEPTEMBER 7.

Market Harborough R.D.C.—Roads and sewers at Kibworth Beauchamp site. Pick, Everard, Keay & Gimson, 6, Millstone-la., Leicester. Dep. £2 2s.

SEPTEMBER 10.

Devizes R.D.C.—Laying of cast-iron water main at Nursteed and asbestos-cement pressure pipe at various parishes. G. E. Williams, Browfort, Devizes.

SEPTEMBER 11.

Bakewell R.D.C.—Construction of water mains, etc., in various parishes. Brady & Partington, Market-st., Chapel-en-le-Frith. Dep. £5.

Petworth R.D.C.—5,800 lin. yds. of 4 in. dia. and 5,210 lin. yds. of 3 in. dia. spun-iron pipes, etc. N. Green, E., Newlands, Petworth. Dep. £2 2s.

SEPTEMBER 13.

Cosford R.D.C.—5,000 yds. of 7 in. and 9 in. dia. stoneware sewers, etc., and sewage disposal works, pumping station, etc. Lemon & Blizard, 25, Victoria-st., S.W.1. Dep. £3 3s.

SEPTEMBER 14.

Bedworth U.D.C.—Sewerage works at Nuneaton-rd. and Weston-la., Bulkington. E. & S., 134, Newtown-rd. Dep. £2.

SEPTEMBER 15.

Herts. and Essex Waterworks Co., Ltd.—Water main extensions at Ongar rural district. T. & C., Hawksley, 1, Gt. Scotland Yard, Whitehall, S.W.1. Dep. £5.

Hornsea U.D.C.—Roadworks, etc., at Hornsea Burton site. E. & S., Town Hall.

SEPTEMBER 17.

Tadcaster R.D.C.—Laying approx. 2,670 lin. yds. of 4 in. dia. and approx. 2,800 lin. yds. of 3 in. dia. spun-iron water mains and incidental works at Catterton and Healaugh. A. H. S. Waters, M.I.C.E., 25, Temple-row, Birmingham 2. Dep. £3 3s.

SEPTEMBER 28.

Marshland R.D.C.—Provision and laying of 2,380 lin. yds. of 6 in. dia., 10,510 lin. yds. of 4 in. dia. and 13,850 lin. yds. of 3 in. dia. asbestos cement water mains, etc., in various parishes. Rofe & Raffety, 3, Victoria-st., S.W.1. Dep. £2 2s.

GENERAL BUILDING WORK (LONDON)

Barnes.—CONVERSION.—Into flats of the Rectory, Church-rd., for Church Commissioners. Architect, B. W. H. Scott (F.), 25, Bedford-row, W.C.1.

Caterham.—HOUSING.—Plans approved for 24 houses at Banstead-rd. Architect, Briant Poulter (F.), Stonebank, Upper Warlingham, Surrey.

Chatham.—HOUSING.—J. D. Walters & Sons, Ltd., 111, New-rd., prepared plans for houses, etc., Hunters-way.

East Ham.—HOUSES.—B.C. to proceed with further 36 houses, Langdon Estate. J. E. Austin, M.B.E., Housing Officer, Town Hall, E.6.

Friern Barnet.—SHOPS AND FLATS.—T. P. Green, Ltd., 1416, High-rd., considering erection of 4 shops with 6 flats above at adjacent site.

Hampton.—HOUSING.—Hampton Estate Co. propose 48 houses at Manor-gdns. estate. Architect, F. J. Edwards, 17, Warwick-close.

Leyton.—REBUILDING.—White and Mileson, 147, High-rd., Loughton, Essex, prepared plans for rebuilding "The Wilderness," Temple Mills-la.

Strawberry Hill (Middx.).—CONVERSION.—Into flats of 14, Strawberry Hill-rd. Architects, Lyons and Townsend, Mill House, Bridge-rd., East Molesey, Surrey.

Teddington.—SHOP AND FLATS.—Block of 1 shop and 6 flats at Hampton-rd. and Third Cross-rd. Architects, Lyons and Townsend, Mill House, Bridge-rd., East Molesey, Surrey.

Victoria.—ALTERATIONS.—To showrooms and shops at Wilton-rd., S.W.1, for Parnells, Ltd. D. A. Wilkie and Partners (FF.), 45, Chancery-la., W.C.2.

Watford.—HOUSES.—Watford Ideal Homes, Ltd., High-st., prepared plans for 34 houses at Watford and Leaveaden.

Wembley.—EXTENSION.—Of factory at Beresford-ave. for Carpenter and Richardson, Ltd., engineers. Architect, W. H. Ingram, 8, Richmond-court, Forty-ave.

Willesden.—REBUILDING.—Of 6-12, Olive-rd. Architects, G. A. Sexton & Sons, 42, Kilburn High-rd., N.W.6.

(PROVINCIAL)

Ashford.—Kent C.C. propose Ashford-Willesborough county primary school.

Ashton-under-Lyne.—T.C. approved additions to factory at Hilliary Shirt Co.

Bangor (North Wales).—T.C. approved houses at Hwfa-rd. for O. and W. Jones. Caernarvonshire E.C. propose county college.

Batley.—T.C. approved:—Works canteen at New Ings Mills, Field-la., for J. Blackburn & Co., Ltd.; works canteen adjoining Deansfield, Birstall, for Taylor, Yielding & Co., Ltd., Prospect Works, Birstall; T.C. has been allocated 50 additional houses by M.H.; T.C. propose child welfare centre at recreation ground at Carr-st, Birstall; T.C. approved assembly hall, New-st., for trustees of the Church of the Assembly of God.

Blackburn.—Very Rev. Canon J. T. Bousfield, P.P. St. Mary's R.C. Church, Islington, proposes junior and infants' school at Bennington-st.

Bolton.—T.C. approved:—Alterations and additions to offices, 11-13, Wood-st., for Russell & Russell; alterations to Royal Cinema, St. George's-rd., for B. & R. Entertainments, Ltd.; dairy, Fern Hill Farm, Belmont-rd., Astley Bridge, for Sir George Holden; T.C. propose crematorium; T.C. approved alterations and additions to Technical College, Manchester-rd., for E.C.

Bournemouth.—Plans being prepared for adaptation for general hospital purposes of St. Leonards Military Hospital. John Burton (F.), Town Hall.

Bournemouth.—Carter Paterson and Pickfords' Joint Parcels Services, 128, Goswell-rd., Clerkenwell, E.C., considering plans for furniture depository at Southbourne-gr.

Brighouse.—T.C. propose crematorium.

Broadstairs.—Kent C.C. propose adaptations of G.A.P. house for school.

Bury.—T.C. approved alterations to works at Cook-st. for Holmos, Ltd. James Kenyon & Sons, Ltd., propose alterations at Derby-st mills and Earl-st. mills. E.C. propose primary school at Fairfield.

Cardiff.—R.D.C. to build 22 houses at Tongwynlais. Architect, T. Alwyn Lloyd (F.), 6, Cathedral-rd.

Chelmsford.—Montague Burton, Ltd., Hudson-rd. mills, Leeds 9, prepared plans for alterations, etc., for 149-151, London-rd. Staff architect, N. Martin (A.).

Chelmsford.—Alterations and additions to Empire Theatre, Springfield-rd. Architect, A. E. Wiseman (F.), 10, Duke-st.

Coventry.—T.C. propose 87 houses at Treherne-rd., Beake-ave. and Rollaston-rd.

Deal.—Kent C.C. propose Sholden Bank primary school (first instalment).

Dover.—Kent C.C. propose Astor-ave. new county primary school.

Dover.—Kent C.C. propose new workshops and accommodation at technical institute.

Folkestone.—Kent C.C. propose adaptations at Earlscliffe school.

Folkestone.—Kent C.C. propose adaptation of isolation hospital at Warren-rd. for primary school classrooms.

Folkestone.—Kent C.C. propose huts at £20,000 for technical institute.

Gravesend.—Kent C.C. propose north county modern school.

Gravesend.—Kent C.C. propose county technical school.

Hastings.—F. W. Woolworth & Co., Ltd., 311, Oxford-st., W.1, propose alterations and improvements at branch premises, 1-7, Wellington-pl. Plans by staff architect.

Hastings.—Addition and alterations at branch showrooms, etc., 30-36, Queen-rd., for Marks and Spencer, Ltd., 82, Baker-st., W.1. Architects, Lewis and Partners, 130, Regent-St., W.1

Hastings (Sussex).—Extensions and alterations to premises at Battle-rd. for Hollington Laundry. Architect, J. S. D. Hicks, 37, De Cham-rd.

Herne Bay.—Kent C.C. propose west county primary school.

Heywood.—T.C. approved:—Loose box at Higher Elbut Farm, Densfield, for H. Beetson; bakehouse at 57, Agincourt-st., for H. Brown; alterations to shop premises at 9-10, York-st., for M. Taylor. Walker's (Prestwich), Ltd., 2, Beech Tree-bank, Prestwich, propose farm house, Stand Lees Farm, Ashworth. T.C. propose alterations to Bamford Hall for conversion into a maternity hospital.

Hythe.—Kent C.C. propose adaptations of Seabrook Lodge to complete provision for educationally sub-normal boys.

Hythe.—Kent C.C. propose adaptations for county modern boys' school at Brockhill Park.

Leek.—Managers of All Saints' Church Compton School propose new school building.

Longridge.—Lancs. E.C. propose primary school at Keston-la., Old Oak.

Manchester.—T.C. approved: Additions to paint factory, Park-st., Ardwick, for A. MacNair & Co., Ltd.; alterations to factory at New Bank-st., Ardwick, for Hindle, Smart & Co., Ltd., W. Johnson & Sons, architects, 27, Oldham-rd., Miles Platting; additions to engineering works at Victoria-st., Openshaw, for Cooke & Ferguson, Ltd., J. Frith, architect, 1, North-rd., Audenshaw; additions to garage and offices at Bamford-st., Bank-st., Clayton, for F.T.S. (Great Britain), Ltd., H. Elder (L.), 66, Manchester-rd., Wilmslow, Ches.

Manchester.—T.C. propose public library at Churnet-st., Rochdale-rd., Collyhurst. E.C. propose school canteen at Chorlton Park.

Manchester.—Plan for extension to Shirley Institute of the British Cotton Industry Research Association approved in principle by T.C. Prepared by H. S. Fairhurst & Son, chartered architects and surveyors.

Manchester.—T.C. approved:—Additions at printing works, Darley-st., for Ardwick, Ault and Wiborg, Ltd.; alterations to warehouse, 49-51, High-st., for R. Gill & Co., Adolph M. Isaacs (A.), 28, Deansgate; warehouse and workroom, 38, Bridgewater-st., for Distribution (North West), Ltd.; motor coach garage and works at Bridgewater Viaduct, Knott Mill, for Lancs. Motor Trades, Ltd., G. Bullimore (A.), 208, Bramhall-la., Davenport, Stockport; dining-room and kitchen at Wesley-st. and Dyer-st., Openshaw, for E.C., L. C. Howitt (F.), C.A., Town Hall; additions to office, 4, Clarence-st., Hulme, for G. H. Gilkes & Co.; alterations and additions to garage and workshop, 61, Rusholme-rd., Chorlton-upon-Medlock, for Hays Wharf Cartage Co., Ltd.; kitchen and dining-room at Ladybarn-la. and Ladybarn-rd., Fallowfield, for E.C., L. C. Howitt (F.), C.A., Town Hall. Governors of Manchester Royal Exchange applying for sanction to proceed with second instalment of reinstatement of Royal Exchange at £196,200; plans by Bradshaw, Gass & Hope (FF.), 19, Silverwell-st., Bolton. T.C. propose adapting St. Joseph's-bldgs., Longsight, for police purposes at £38,195; adaptation of Bostock Hall, nr. Middlewich, for residential school at £18,127; War Office propose S.D. houses at Norman-rd., Rusholme, for staff of East Lancs. Territorial and Auxiliary Forces Assoc.

Margate.—Kent C.C. to erect 3 temporary classrooms and canteen at Birchington C.E. school.

Margate.—Kent C.C. propose 2 classrooms and sanitary accommodation at King Ethelbert county modern school.

Middlesbrough.—Kitching & Co., 21, Albert-rd., are architects for workshop at Park-rd. north for Middlesbrough Little Theatre and for 2 houses at Emerson-ave. for J. H. Proudlock. T. A. Crawford, Borough-rd., prepared plans for alterations to shops at Newport-rd. for A. Nardone, 2 houses at Acklam-rd. south for J. Oakley, and presbytery for temporary church at College-rd. for Rev. Father T. A. Nolan. Garbutt, Archibald and Archibald, Albert-rd., are architects for fruit warehouse nr. Thompson-st. for J. Stevenson, and for industrial buildings at junction of Dock-st. and Vulcan-st. for C. Horne & Co., Ltd.

Newcastle.—The Rock Building Soc., Market-st., to build offices. Plans by L. J. Conver & Partners, Carlisle House.

Newcastle-on-Tyne.—Edwards and Manby, Eldon-pl., prepared plans for alterations to provide dept. of surgery at Queen Victoria-rd. and also welding shop for council of Kings College. J. Anderson, 4, Mosley-st., Newcastle-on-Tyne, is architect for store at Sutton-st. for Newcastle Model Milk Co., Ltd. Plans re-submitted to local authority for new hotel at Silver Lonnen for A. Deuchar, Ltd., Lovaine-pl., architects, Dryden and Shaw, 6, Market-str. Temporary canteen to be built at Stowell-st. for A. Elliott (Electro-Platers, Ltd.), who have prepared plans.

Oldham.—T.C. propose shopping centre at Limeside estate, Limehurst. T.C. propose day nursery at Haven-la., Moorside, at £8,000. Heywood & Ogden, architects, 1, St. Peter's-st.

Ormskirk.—Rev. C. Griffin, P.P. St. Elizabeth's Church, Ormskirk-la., Scarisbrick, proposes new school.

Portsmouth.—Cosham Estates, Ltd., Cosham, Hants., prepared plans for 5 shops and 12 flats at Manor-way, West Drayton, and houses at East Cosham and Drayton.

Ramsgate.—Kent C.C. propose adaptation of Holy Cross premises for technical institute.

Ramsgate.—Kent C.C. propose Manston-rd. county primary school.

Rochdale.—T.C. approved: Additions to works at Molesworth-st., for Clegg & Coupe; additions to Town Head Mill and subway for Town Head Mill Co., Ltd.; workshop at Halifax-rd., for R. Pickering; day nursery at Sparth Mills, Corporation-rd., for Combined Egyptian Mills, Ltd., Bradshaw, Gass & Hope (FF.), 19, Silverwell-st., Bolton. T.C. propose houses at Birch-rd., Wardle. Received sanction of M.H. to borrow £207,965 for flats, roads and sewers at Kirkholt estate (section No. 3).

Rochdale.—T.C. approved:—Additions to works, Mellor-st., for R. Stott & Sons; additions at Sudden Mill, Manchester-rd., for Higham's, Ltd.; additions to factory, Shawclough-rd., for Shawclough Mill (1920), Ltd.; canteen to works at Allen-st., for F. S. Ratcliffe, Ltd.

Rochester.—Kent C.C. propose Warren Wood county primary school.

Rochester.—Kent C.C. propose Elaine-ave. county primary school.

Rochester.—Kent C.C. propose Warren Wood county modern school for girls.

Rotherham.—T.C. approved:—Welfare unit at Radcliffe-st. and medical centre at Sheffield-rd., for The United Steel Companies, Ltd.; laboratory to Roundwood Colliery for N.C.B.; alterations to premises at All Saints'-sq. for A. Schonhut & Son; boiler-house to works at Blackburn for A. Lee & Sons, Ltd.; warehouse at Main-st. for E. Barron & Sons.

Rotherham.—T.C. approved bakery at Greasbrough-rd. for W. J. Brookes & Sons, Ltd., wholesale bakers, at Skerton-rd. bakery, Old Trafford, Manchester 16.

St. Leonards-on-Sea.—Rebuilding and conversion into flats of 182-188, Bohemia-rd. Kenneth F. Wray (F.), 43, Gildredge-rd., Eastbourne.

Salford.—T.C. approved:—Additions to works at Bedford-st. for Greengate, Landfields, Ltd.; additions to works at Eccles New-rd. and Weaste-rd. south, Weaste, for Burton, Son & Sanders, Ltd.; works and depot at Mode Wheel-rd., Weaste, for Val de Travers Asphalte Co., Ltd., 3, York-st., Manchester 2. T.C. propose shopping centre at Wardleworth estate, 40 houses on sites within city; T.C. propose office at Hope Hospital, Pendleton, at £13,500.

Sittingbourne.—Kent C.C. propose Barrow-gro. county primary school.

Sittingbourne.—Kent C.C. propose completion of further rooms at west county modern school.

Stafford.—T.C. to develop land at Greensome-la., Doxey, for housing estate.

Stourbridge.—T.C. received allocation from M.H. of 220 houses.

Stretford.—T.C. approved:—Additions to works at Westinghouse-rd. for I.C.I., Ltd.; additions to works at Elevator-rd. for Key Engineering Co., Ltd. T.C. propose houses at Edge House Farm estate. Lancs. E.C. propose junior and infants' school at Hullard Park area.

Sunderland.—Licence granted for building of factory for disabled persons at Sunderland. Architect, C. S. Errington, 46, Grainger-st., Newcastle.

Sunderland.—Rehabilitation scheme at Palatine Hotel. Architects, W. and T. R. Milburn, 17, Fawcett-st.

Sunderland.—Plans approved for factory additions at Rutland-st. for John Lynn & Co., Ltd., engineers, etc.

Warrington.—T.C. approved:—Works canteen at Athertons Quay for Monks, Hall & Co., Ltd.; canteen at Winstanley Works, Long-la., for Mody & Co., Ltd. R.D.C. propose 32 houses at Clifford-rd. and 10 "Airey" houses at Park-rd., Great Sankey and Penketh.

WOOD BLOCK FLOORING

is now

AVAILABLE

VIGERS BROS.

LTD.

14/18, HOLBORN, E.C.1

HOL. 2718

and 2719

Wellington (Salop). — R.D.C. propose 34 houses. Shropshire E.C. propose primary school at Orleton-rd.

West Hartlepool.—T.C. received sanction to build 150 houses.

Wharfedale.—R.D.C. propose houses at Arthington and Denton.

Whitstable.—Kent C.C. propose new county modern school.

Workington.—T.C, approved extensions and alterations to engineering works at Moss Bay for Workington Iron and Steel Co., Ltd. T.C. propose:—Shopping centre at Salterbeck estate, layout of Westfield and Moor Close Estate, Prof. Allen, cons. architect. T.C. propose:—"Airey" type houses at Harrington Parks site; aluminium bungalows at Westfield Farm site.

Worthing.—E.C. considering alternative plans for proposed junior and infants' school at Findon Valley. Architect, Percy E. Harvey, A.M.I.C.E., Town Hall.

Worthing.—Trading Trust and Loan Co., Worthing, propose 10 shops with flats at Palestine-rd. and Limbrick-la. D. J. Reid (L.), architect, 616, Christchurch-rd., Bournemouth.

Worthing.—Plans prepared for 24 flats at Bolsover-rd. for J. W. Stratton, Ltd., Southwick. Arch., G. W. Warr, 137, Albion-st., Southwick.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Amble.—12 houses for U.D.C.: *Cussins (Contractors), Ltd., Jesmond, Newcastle.

Bala.—10 houses with road and sewer work at Maesybrouydd site, for U.D.C. S. G. Gittins, S.: *Deveron Estates.

Bedlington.—100 houses for U.D.C. W. Hall, S., Council Offices: *Direct Labour.

Blackpool.—44 houses at Grange Park estate, for T.C. A. S. Hamilton, B.Sc., S.: *Clifton Construction (Blackpool), Ltd., Marton, Blackpool, £62,833.

Bridlington.—20 houses at Bessingby estate for T.C.: ‡A. Schofield (Builders), Ltd., Hornsea, £27,793.

Bristol.—Reconstruction of Bristol Hippodrome, for Stoll Theatres, Ltd., Coliseum-bldgs., St. Martin's-la., W.C.2. Edwin M. Lawson (A.), Barras-bldgs., Barras Bridge, Newcastle-on-Tyne: *C. A. Hayes & Sons, Ltd., Stork House, Hotwells, Bristol.

Bristol. — Proposed Southmead Secondary school, for E.C. Architect: J. Nelson Meredith (F.), Eagle House, Colston-av.: *Stone & Co. (Bristol), Ltd., 140, Redlands-rd., Bristol 6.

Brynmawr (S. Wales).—Superstructure of factory, offices, canteen, stores, etc., for Wales and Monmouthshire Estates, Ltd., Treforest Trading Estate, Pontypridd. Plans by architects, Co-operative Partnership, 34, Gordon-sq., W.C.1: *Gee, Walker & Slater, Ltd., 100, Park-la., W.1.

Bury.—Completion of new Town Hall at Manchester-rd. and Knowsley-st., for T.C. Jackson & Edmonds (FF.), 65, New-st., Birmingham 2: *Spencer & Clarke, Ltd., Elton Saw Mills, Bury.

Cumberland.—Four police houses for C.C.: *John Twiname, Ltd., Brigham.

Cumberland.—Alterations to male ward at County Mental Hospital, for C.C. H. Haughan, County A., 4, Alfred-st. North, Carlisle: *C. B. Ross, Carlisle, £9,487.

Deal.—Additions and alterations to Ideal Potteries, Albert-st., for Castle Concrete Co., Ltd., Western-rd. G. Ridley (F.), 13, Victoria Park, Dover: *Direct Labour.

Durham.—Extensions to factory of Washington Chemical Co., Ltd., Washington. Architects: L. J. Conves & Partners, Carliol House, Newcastle: *Gordon Durham, Boldon-la., East Boldon, Durham.

Durham.—42 houses at Parkhill estate, for R.D.C.: *Direct Labour.

Eastbourne.—Partial rebuilding of post office, etc., at 171, Terminus-rd. Architects: Henry Ward & Sons, 8, Bank-bldgs., Hastings, Sussex: *William Llewellyn & Sons, Ltd., 3, Cornfield-ter., Eastbourne.

Eastbourne.—16 houses in two sections at Chatfield-Davis estate, Hampden Park, for T.C. B.E., 2-4, Saffron-rd.: *Usher & Martin, Ltd., 26, Gildredge-rd., Eastbourne.

Felling (Co. Durham).—148 brick houses at High-lanes, Heworth, for U.D.C. Housing Architect: D. W. Green, Council Offices, Felling: *Direct Labour (subject to M.H. approval).

Haltemprice.—32 houses at Hull-rd., Hessle, for U.D.C. R. G. Clarke (F.), Bedford-chbrs., Scale-la.: *Scruton, Stanton & Co., Ltd., Leonard-st., Hull, £38,455.

Hammersmith.—Conversion into warehouse and showrooms of Palace of Varieties, King-st., for W. N. Froy & Sons, Ltd., King-st., W.6. Architects: Adie, Button & Partners, 29, Weymouth-st., W.1: *J. M. Hill & Sons, Ltd., North Circ-rd., Stonebridge Park, Wembley.

Hampton (Middx).—Block of shops and flats at 92-94, Station-rd. Roper, Son & Chapman, 162, High-st., Hounslow, architects: *Gordon Carrington & Co., 136, High-st., Twickenham.

Harrow.—6 houses at Masefield-ave. and 2 at Flecker-cl., Woodlands estate, for U.D.C.: *S. and K. Darvill, Ltd., £12,024.

Lanarkshire.—(1) 100 Stuart houses at Tannachside, and (2) 112 houses at Chryston, including reinforced concrete foundations, for C.C. Architect: Samuel McColl, 23, Beckford-st., Hamilton: *A. A. Stuart & Sons (Housing), Ltd., 2230, London-rd., Glasgow, E.2. (1) £135,256; (2) £159,604.

L.C.C.—Contracts exceeding £2,500 in value placed by L.C.C. during period ended August 11: Erection of prefabricated buildings at Calvert-rd. school (Greenwich), John Harrison (London), Ltd., Camberwell. Repairs after war damage at Elliott Secondary school (Putney), T. Ringham & Co., Ltd., Wimbledon. Installation of two oil-engine driven pumps in triple engine houses at Southern outfall works, Galbraith Bros., Ltd.

London.—Offices, etc., at Eccleston-pl., S.W.1, for Workers' Travel Association, Ltd., 34, Gillingham-st., S.W.1. Hugh Roberts & Davies (F./A.), 27, Grosvenor-pl., S.W.1, architects: *F. G. Minter, Ltd., Ferry Works, High-rd., Putney, S.W.15.

London.—Office building, rear of 1-33, Sinclair-gdns., Earl's Court, W.14. Collcutt & Hamp, 126, Wigmore-st., W.1, architects: *Gee, Walker & Slater, Ltd., 100, Park-la., W.1.

London.—Rebuilding premises at 170-192, Borough High-st., for Mosers, Ltd. Boreham, Son & Wallace, Victoria House, Southampton-row, W.C.1, architects: *George Parker & Sons, Ltd., 124, Sumner-rd., Peckham, S.E.

London.—Reinstatement of St. Regis restaurant and flats at Old Burlington-st., W.1. Gordon Jeeves (F.), 61, Catherine-pl., S.W.1, architect: *F. G. Minter, Ltd., Ferry Works, High-st., Putney, S.W.15.

London.—Repairs, etc., at 116-119, Pall Mall, S.W.1, for United Services Club. Thompson, Walford & Fielder, Leadenhall-bldgs., Leadenhall-st., E.C., architects: *Holloway Bros. (London), Ltd., Bridge Wharf, Millbank, S.W.1.

London.—Alterations and additions at Walpole House, 87-91, New Bond-st.: *Frederick Sage & Co., Ltd., Holborn Hall, Gray's Inn-rd., W.C.1.

London.—Alterations and additions at 21, Upper Grosvenor-st. F. J. Edwards, 17, Warwick-cl., Hampton, Middx., architect: *Trollope & Colls, Ltd., 42, Great Queen-st., W.C.2.

London (Air Ministry).—Contracts to value of £500 or over for week ended August 14. Surfacing work: The Limmer & Trinidad Lake Asphalt Co., Ltd., London, S.W.1. Building work: Geo. Wimpey & Co., Ltd., Edinburgh 3; John Best (Edinburgh), Edinburgh 4; R. M. Phillips & Son, Ltd., Brigg, Lincs.

¶London (M.O.W.). — Contracts placed by M.O.W. during week ended August 7:—

London: Leconfield House, Curzon-st., W.1, Adaptations and internal decorations, Marshall Andrew & Co., Ltd., 31, Queen Anne's-gate, St. James Park, S.W.1; King William Buildings, Royal Naval College, Greenwich, Internal painting, Thomas Edge, Ltd., 25, Greens-end, Woolwich, S.E.; M/H Social Service Scheme, Burghley Hall, Leytonstone, Occupational services, John Greenwood, King William-st. House, Arthur-st., E.C.4; M.N.I., 303-305, Mitcham-rd., Tooting, S.W., Occupational services, Walker Clinging & Co., 16, Perry Hill, Catford, S.E.6; Section 1, Regent's Park houses, Reinstatement of Stucco fronts and general external repairs, Clark & Fenn, Ltd., 16, Old Town, S.W.4; Section 2, Reinstatement of Stucco fronts and general external repairs, Gee, Walker & Slater, Ltd., 100, Park-la., W.; Section 3, Reinstatement of Stucco fronts and general external repairs, Higgs & Hill, Ltd., Crown Works, South Lambeth-rd., S.W.8; Section 4, Reinstatement of Stucco fronts and general external repairs, Haymill (Contractors), Ltd., Hanger Green, Western-av., W.5; Custom House, E.C.4, Interior repairs and redecs., Walker-Symondson, Ltd., Braintree-rd., Ruislip, Middx; Dorland House, Regent-st. (6th floor), Adaptation and redecs., Clemens Bros., 77, Derby-rd., E.7. *Banffshire*: Portessie J.S. School, Temp. classrooms, Jas. Leith, Jun., 137, Causewayend, Aberdeen. *Bucks*: C.E. School, Sheep-st., Winslow, Temp. classrooms, Frank J. Mitchell, Ltd., 25, Wendover-rd., Aylesbury, Bucks. *Caithnessshire*: Coastguard Houses, Wick, Coastguard houses, K. McRae & Co., 99a, High-st., Wick. *Cambs*: C.P. School, Ramnoth-rd., Wisbech, Kitchen and dining-room, Bettles Bldgs. Co., Ltd., 80, Alma-rd., Peterborough.

Inverness-shire: Telephone Exchange, Inverness, Structural steelwork, Fleming Bros., 49, Bath-st., Glasgow. *Lanarkshire*: E.V.W. Hostel, Barony, Glasgow, Adapts., A. B. Ireland & Son, 67, Shakespeare-st., Dumfries. *Lancs*: Blackburn, Airey houses, G. & J. Seddon, Ltd., 3, Manchester-rd. West, Little Hulton, Bolton. *Middx*: Belmont School, Fisher-rd., Harrow Weald, Temp. bldgs., Stanley Hugh Leach, Ltd., Lawrence House, 128, St. Margaret's-rd., Twickenham, Middx. *Northumberland*: Site school, William-rd., Haltwhistle, Addit. classerooms, Geo. Wimpey & Co., Ltd., Orchard House, Newcastle-on-Tyne. *Oxfordshire*: Varnton-rd., Kidlington, Oxford, U.A.X., T. H. Kingerlee & Sons, Ltd., 35a, Queen-st., Oxford. *Somersetshire*: St. Saviour's School, Bath, School kitchen and dining-room, H. J. Walker & Sons, Station-rd., Fishponds, Bristol. *Staffs*: Home Office Trg. Centre, H.M.S. Boballa, Swynnerton, Adapts. to huts & conversion of five bungalows, M. A. Boswell, Ltd., School-st., Wolverhampton. *Surrey*: Home Office Fire College, Wotton House, Dorking, Maintenance repairs, Trollope & Colls, Ltd., Dorking. *Sussex*: Royal West Sussex Hospital, Chichester, Alterations to Hubbard Ward and erection of boiler-house, L. F. Richardson, Ltd., 145, St. Pancras, Chichester; Moulsecomb County Sec. Girls' School, Lewis-rd., Brighton, Temp. school bldg., McKellor & Westerman, Ltd., 143, Church-rd., Hove, Sussex; Davison C.E. School, Chapel-rd., Worthing, Temp. school bldgs., Crosby & Co., Ltd., Lion Works, West-st., Farnham, Surrey. *Warwickshire*: N.S./H.C., E.V.W. Camp, Maxstoke, nr. Birmingham, Alterations and adapts., Kent & Sussex (Contractors), Ltd., 270, Corporation-st., Birmingham. *Yorks*: Starbeck School, High-st., Starbeck, School kitchen and dining-room, Walter G. Birch (Harrogate), Ltd., 33, Springfield-av., Harrogate; Bilton Grange School, Harrogate, School kitchen and dining-room, Walter G. Birch (Harrogate), Ltd., 33, Springfield-av., Harrogate; Southdale Modern School, Ossett, Temp. school classrooms, J. Pullan & Sons, Ltd., Marley-ter., Leeds; Abbey Farm, Whitby, Reinstatement, A. P. Langton, 77, Park-la., Guisborough, Yorks.

¶London (War Dept.).—Works contracts placed by War Dept. for week ended August 7:—

Yorks: Building work, F. Shepherd & Son, Ltd., York. *Northumberland*: Building work, J. M. Black (Jun.), Ltd., Hebburn-on-Tyne. *Wilts*: Misc. work, Blackford & Son (Calne), Ltd., Calne, Wilts.

Maidstone.—16 houses at Shepway Farm estate, for T.C. John H. Hughes, M.C., B.S.: *The Peak Construction Co., Ltd., 49, Hamilton-sq., Birkenhead, £24,444.

Manchester.—Office block at Cheetwood-rd., Cheetham Hill, for North Western Electricity Board, Grid House, Wilmslow-rd., Didsbury: *A. Cassel & Sons, Ltd., 1-11, Teneriffe-st., Broughton, Salford 7 (estimated cost, £65,000).

Manchester. — Additions to departmental stores at Oldham-st. and Short-st., for Affleck & Brown, Ltd.: *Alfred Hodkinson, Ltd., 62, Greenhill-st., Greenheys, Manchester 15.

Market Rasen.—Six houses at housing site, for U.D.C. J. Potts, S., Council Offices, 3, Mill-st: *W. Foster & Son, 41, Castle Gate, Grantham.

Marshland.—Houses for R.D.C. 12 at Church-dr., Outwell: *H. E. Means, Upwell, £1,349 per house; two, Near Church Farm, Tilney All Saints: *F. C. Adkins, Terrington St. Clements, £1,339 per house; four at St. John's-rd., Tilney St. Lawrence: *Warren Bros., Churchwarton, £1,375 per house; 10 at Church-la., West Walton: *Hall & Jex, King's Lynn, £1,393 per house.

Newport (Mon.).—Proposed New Gaer school, for E.C. Architect: Johnson Blackett & (F.), Town Hall: *D. E. Broad, Ltd., 36, High-st., Tarring, Worthing.

ELECTRO-PLATING
BY A HOUSE OF UNRIVALLED EXPERIENCE & REPUTATION
1873-Established 75 years-1948
SILVER, GOLD & CHROMIUM
BRASS, COPPER, NICKEL & TINPLATING
OXIDISING, LACQUERING & STOVE ENAMELLING
Repairs & Restoration
WE Specialise in replating
BUILDERS & ELECTRICAL FITTINGS
MASS PRODUCTION CAPACITY AVAILABLE
FOR PLATING & POLISHING NEW GOODS FOR HOME & EXPORT
JOHN WILKINS & Co. LTD.
231-243 ST. JOHN ST. CLERKENWELL
LONDON E.C.1
phone: TERminus 2176/8

Plymouth.—Reinstatement and improvements to Somerset-place schools, for E.C. E. C. Catchpole (A.), Weston Lodge, Seymour-rd., Plymouth: *Hill & Lang, 32, Woolsdon-st., Plymouth.

Richton.—40 "Orlit" houses, for U.D.C. H. W. Gilman, M.I.Mun.E., S., Council Offices, Brook-st.: *Middleton & Co. (Blackpool), Ltd., Bank-st. Sidings, Blackpool, £54,520.

Runcorn.—22 houses at two sites, for R.D.C. E. & S., Castle Park, Frodsham: *Ainsworth & Garner, Mersey View, Clifton, Runcorn (16 at Kingsley); *A. Garner, 99, Beflemonte-rd., Frodsham (six at Aston).

St. Austell.—Six houses with water reservoir and sewage disposal system at Lobb's Shop, for U.D.C. H. G. King, D.Sc., E. & S.: *C. May, "Brendene," Well-st., Tywardreath, Par., £8,141 (submitted to M.O.H. for approval).

Shoreditch.—Erection of blocks 1, 2, 3 and 4 (92 flats), at Colville estate, for B.C.: *W. Lawrence & Son, Ltd., Sun-st., E.C.2, £139,193 (subject to M.H. approval and any necessary loan sanction).

Stockport.—Four police houses at Bridge Hall estate and two blocks of six flats each at Elizabeth House site, for T.C.: *Senior Building Co. (1946), Ltd., Wilmslow-rd., Cheadle, Ches. £5,660 and £16,150.

Sunderland.—Rebuilding joinery works for Berkson & Co. Plans by Stephenson & Gillis, Saville-chbrs., Saville-row, Newcastle: *F. J. Heppie, Dunn-st., Newcastle.

Sunderland.—Rehabilitation of heavy boiler-shop and reconstruction of quay at Southwick Engine Works. Engineers: R. T. James & Partners, St. Nicholas-bldgs., Newcastle-on-Tyne: *Brims & Co., Ltd., Pandon-bldgs., City-rd., Newcastle-on-Tyne.

Tetbury.—Four houses at Long Newnton, for R.D.C. Gordon Payne & Partners, 19, Clarence-st., Gloucester: ‡E. A. Hider, Ltd., Malmesbury, Wilts, £5,369.

Walton and Weybridge.—20 houses with out-houses, paths, fencing, etc., at Longmore-rd., for U.D.C. E. & S.: *Dayson Contractors, Ltd., 63, Cottimore-la., Walton-on-Thames, £25,343.

West Kesteven.—16 houses at three sites, for R.D.C.: *W. Foster & Sons, Grantham, £22,578.

Wolverhampton.—Alterations and additions to women's dept. at Wolverhampton and Staffs Technical College, Wufruna-st., for T.C. A. C. H. Stillman (F.), architect and S., County Ed. Offices, Stafford. Quantities by Henry Vale & Sons, Wolverhampton: *T. Wellings & Sons, Ltd., Merridale-rd., Wolverhampton, £5,056.

Worthing.—Blocks of flats at 13, Farncombe-rd., for J. Seaman, Worthing: *J. Dilliston, Ltd., Victoria-bldgs., York-rd., Worthing.

Wrexham.—100 houses at Queen's Park site, for T.C. J. M. Davies, M.I.Mun.E., B.S., Municipal Offices, 1, Grosvenor-rd. *Holland & Hannen and Cubitts, Ltd., Liverpool (49): *Thomas Warrington & Sons, Ltd., 84, Station-rd., Ellesmere Port, Ches (51). (Total cost, £127,000.)

Woodworking Machine Tools Wanted.

The United Kingdom Trade Commissioner at Johannesburg has reported that the Johannesburg City Council are asking for tenders for the supply of woodworking machine tools. The closing date for receipt of tenders is September 13. A copy of the specification and conditions of this tender, No. 568, is available for inspection only at the Export Promotion Department, Room 3090, Thames House North, Millbank, S.W.1. Reference No. 39226/48 should be quoted.

International Housing Exhibition.

A Press Conference of the International Housing Exhibition, which is due to be held at the Empire Hall, Olympia, from November 9-18 next, was held on August 12. An Advisory Council, under the presidency of Sir Thomas Bennett, C.B.E., F.R.I.B.A., has been appointed. It appears that the exhibition will have a strong town planning interest, and that exhibits from U.S.A., Holland, Belgium and France will be shown. An architectural competition, having probably as its subject a small house for the normal-size family, is under consideration.

Mr. Gilbert McAllister, M.P., Chairman of the Executive, informs us that present plans are to run this exhibition annually. For the current exhibition we are informed that 25 per cent. of the space in the Empire Hall has so far been let.

FEDERATION OF MASTER BUILDERS

UNITE FOR STRENGTH

10,000 BUILDERS

are now members of the

FEDERATION OF MASTER BUILDERS

The Largest Truly Representative Organisation in the Industry

MAPS OF LONDON DISTRICT—AVAILABLE TO BUILDERS

Showing Labour Exchanges (Indexed), £1.0.0 post free.

ENROL NOW

SUBSCRIPTION £4.4.0 p.a.

LONDON REGION—37 AREAS
And over 70 PROVINCIAL BRANCHES

'Phone or write:

Secretary:
26, Gt. Ormond St., Holborn, W.C.1.
Tel.: CHAncery 7583 (4 lines)
Telegrams: "EFEMBE, Holb, London"
The address of your Branch Secretary will be forwarded.

Boyle's Patent "Air Pump" Ventilator

OVER TWO MILLION IN USE

ROBERT BOYLE & SON
VENTILATING ENGINEERS
98, HERRIES STREET, KILBURN LANE, W.10
Tel.: LADbroke 2878

WOOD BLOCK FLOORS
STEVENS & ADAMS LTD.
Victoria Works,
Point Pleasant, Wandsworth, S.W.18

THE ESSEX STEEL SCAFFOLDING CO.
SMART'S LANE,
LOUGHTON, ESSEX
TEL.: LOUGHTON 295
SALES HIRE
ERECTION CRADLES

GALBRAITH
BROTHERS LIMITED
BUILDERS
CONTRACTORS
& ENGINEERS
of
CAMBERWELL
HEAD OFFICE:
34 & 35, HIGH HOLBORN, LONDON, W.C.1
Tel.: CHAncery 7901-3